Permit Type: Groundwater Discharge

Permit No. GNEV93001

Nevada Division of Environmental Protection

AUTHORIZATION TO DISCHARGE

In compliance with Chapter 445A of the Nevada Revised Statutes,

UNITED STATES DEPARTMENT OF ENERGY
National Nuclear Security Agency
Nevada Field Office
P. O. Box 98518
Las Vegas, Nevada 89193-8518

is authorized to discharge from a facility located at/within:

NEVADA NATIONAL SECURITY SITE
NYE COUNTY, NEVADA

to receiving waters named the

GROUNDWATER OF THE STATE

in accordance with influent limitations, monitoring requirements, and other conditions set forth in Sections 1.0 through 6.0 of this permit.

This permit shall become effective on January 4, 2022.

This permit and the authorization to discharge shall expire at midnight, January 3, 2027.

Signed January 4, 2022 by

Christine D. Andres, Chief
Bureau of Federal Facilities

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1.0 INTRODUCTION:

1.1 The Permittee, the National Nuclear Security Administration/Nevada Field Office (NNSA/NFO) owns, and operates through their Management and Operating contractor, the Nevada National Security Site (NNSS), located approximately sixty-five miles northwest of Las Vegas, Nevada in Nye County, Nevada. This permit authorizes the Permittee to activate, construct, operate, maintain, and/or commission six wastewater treatment pond systems located on the NNSS.

1.2 This permit prohibits the Permittee from discharging waste containing constituents whose concentrations are defined or declared as hazardous waste, per 40 CFR 261.24, into a sewer main, pond, or rapid infiltration basin (RIB), without concurrence from the Nevada Division of Environmental Protection (NDEP). Discharges into wastewater treatment ponds neither designated nor authorized to receive them are prohibited. All wastewater treatment pond systems described in this permit are located within the NNSS.

1.3 This permit prohibits the Permittee from discharging into a sewer main or wastewater treatment pond system an industrial waste which is detrimental to the biota of the wastewater treatment pond. The Permittee shall not discharge industrial waste into a sewer main or wastewater treatment pond system exceeding the established pretreatment standards that are required to meet a system's design and performance standards for the selected mode of treatment and disposal.

1.4 The terms and conditions of this Water Pollution Control Permit apply to all facultative wastewater treatment pond systems within the confines of the NNSS (Table 1). Any wastewater treatment or disposal system on the NNSS that is designed for operation in accordance with the conditions of this permit is eligible for inclusion in this permit. For each new system that the Permittee believes meets the criteria for coverage under this permit, an application must be submitted to the NDEP for consideration. The NDEP shall determine whether each such proposed system can be added and authorized under this permit.

Table 1: Wastewater Treatment Pond Locations

Facility	Area	Northing (NAD 83 meters)	Easting (NAD 83 meters)	Latitude	Longitude
U1a Complex	1	6250635.102	554434.785	37.0075 N	116.0550 W
Yucca Lake Complex	6	6243303.125	555963.627	36.9413 N	116.0383 W
Device Assembly System (DAF)	6	6238087.986	555991.059	36.8943 N	116.0384 W
Area 12 Camp	12	6271909.576	545786.640	37.1996 N	116.1508 W
Mercury	23	6211540.463	558519.380	36.6549 N	116.0121 W
Engine Test Stand 1 (ETS 1)	25	6230590.232	531642.153	36.8279 N	116.3119 W

2.0 INFLUENT LIMITATIONS:

2.1 This permit limits the monthly influent flow into each system to the maximum design flow listed in the Discharge Limitation Tables in Section 2.5. There are, however, certain conditions that may allow the NDEP to apply waivers allowing greater than the maximum design flows. The NDEP will review any waiver on a quarterly basis to see if there are changes in the conditions that would remove the necessity of a waiver.

2.2 There shall be no discharge from the facility property (i.e. NNSS) except as authorized by this permit.

2.3 Organic load:

2.3.1 The organic load for those systems without existing headwork meters shall be calculated from the measured BOD5 and scheduled site fluid level measurements and shall not exceed the loading limits established in Section 2.3.2., below. Site fluid level measurements will take into account other system and climatic specific data such as evaporation, precipitation and infiltration rates.

2.3.2 The organic load, calculated from the measured BOD5 and the metered influent flow rate adjusted to include increments from septage, shall not:

2.3.2.a Exceed 35.0 pounds per acre of pond surface per day for facultative ponds.

2.3.2.b Be limited in those ponds which exclusively receive and treat only septage.

2.4 The hydrogen ion concentration of the influent fluids must measure between 6.0 and 9.0 pH (SU).

2.5 Sampling Locations for Wastewater Treatment Ponds:

2.5.1 During the period beginning on the effective date of this permit, and lasting until the permit expires, the Permittee is authorized to receive domestic wastewater from NNSS facilities and discharge treated effluent to groundwaters of the State via evaporation and infiltration from wastewater treatment ponds located on site.

2.5.2 Influent samples and measurements taken in compliance with the monitoring requirements specified below shall be taken at the sample locations listed in Table 2.

Table 2: Wastewater Treatment Pond Sample Locations

Sample Locations			
Area	Pond Facility	Sample Loc	Location Description
1	U1a Complex	001	Influent Headworks
6	Yucca Lake	002	Influent Headworks
6	DAF	003	Influent Headworks
12	Camp	004	Influent Headworks
23	Mercury	005	Influent Headworks
25	ETS 1	006	Influent Outfall

2.6 Discharge Limitation Tables for Wastewater Treatment Pond Systems:

The discharge shall be limited and monitored by the Permittee for each sample location. The tables below describe the discharge limitations and monitoring requirements for each sample location that shall be taken either monthly or quarterly to ensure permit compliance (NAC 445a.243).

Discharge Limitation Table for Sample Location 001

AREA 1			
Discharge Limitations & Monitoring Requirements			
U1a Complex (Primary and Secondary)	Limit	Reporting Frequency	Sample Type
Monitoring			
BOD_5 (mg/l)	M&R[1]	Quarterly	Composite[2]
Total Suspended Solids (mg/l)	M&R	Quarterly	Composite
pH (SU)	6.0-9.0	Quarterly	Composite
Measurements			
Metered Flow (gal/day)	22,650	Monthly	Influent Meter
Distance from Freeboard (feet)	≥2	Quarterly	Observation
Leakage Rates (gal/acre/day)	M&R	Quarterly	Meter
Calculated			
Organic Loading Rate (lb/day)	32.00	Quarterly	Calculated

1 M&R: Monitoring and Reporting

2 Composite Samples: Will be flow-weighted (6 hours during normal business hours) for those systems equipped with an ultrasonic flow meter. Samples from systems without flow meters, but which utilize automatic samplers, shall be composited on a time-weighted (6 hours) basis. Any method of comparable reliability can be employed in place of continuous flow meter-driven automatic samplers. Those headworks which have no flow for the entire quarter cannot be sampled; consequently, the no flow condition shall be recorded and reported. In the event there are two consecutive quarters of low flows at a system impacting the ability to collect time or flow weighted samples, the permittee may propose alternative methods for measuring flow rates or obtaining representative samples.

Discharge Limitation Table for Sample Location 002

AREA 6			
Discharge Limitations & Monitoring Requirements			
Yucca Lake Pond System (Primary and Secondary)	Limit	Reporting Frequency	Sample Type
Monitoring			
BOD_5 (mg/l)	M&R[1]	Quarterly	Composite[2]
Total Suspended Solids (mg/l)	M&R	Quarterly	Composite
pH (SU)	6.0-9.0	Quarterly	Composite
Measurements			
Metered Flow (gal/day)	10,850	Monthly	Influent Meter
Distance from Freeboard (feet)	≥2	Quarterly	Observation
Calculated			
Organic Loading Rate (lb/day)	75.90	Quarterly	Calculated

Discharge Limitation Table for Sample Location 003

AREA 6			
Discharge Limitations & Monitoring Requirements			
DAF Pond System (Primary and Secondary)	Limit	Reporting Frequency	Sample Type
Monitoring			
BOD_5 (mg/l)	M&R[1]	Quarterly	Composite[2]
Total Suspended Solids (mg/l)	M&R	Quarterly	Composite
pH (SU)	6.0-9.0	Quarterly	Composite
Measurements			
Metered Flow (gal/day)	7,640	Monthly	Influent Meter
Distance from Freeboard (feet)	≥2	Quarterly	Observation
Calculated			
Organic Loading Rate (lb/day)	33.73	Quarterly	Calculated

Discharge Limitation Table for Sample Location 004

AREA 12			
Discharge Limitations & Monitoring Requirements			
Area 12 Camp (Primary and Drying Bed)	Limit	Reporting Frequency	Sample Type
Measurements			
Metered Flow (gal/day)	16,800	Monthly	Calculated
Distance from Freeboard (feet)	≥3	Quarterly	Observation

Discharge Limitation Table for Sample Location 005

AREA 23			
Discharge Limitations & Monitoring Requirements			
Mercury Pond System (Primary, Secondary, and Tertiary)	Limit	Reporting Frequency	Sample Type
Monitoring			
BOD_5 (mg/l)	M&R[1]	Quarterly	Composite[2]
Total Suspended Solids (mg/l)	M&R	Quarterly	Composite
pH (SU)	6.0-9.0	Quarterly	Composite
Measurements			
Metered Flow (gal/day)	73,407	Monthly	Influent Meter
Distance from Freeboard (feet)	≥3	Quarterly	Observation
Calculated			
Organic Loading Rate (lb/day)	274.05	Quarterly	Calculated

Discharge Limitation Table for Sample Location 006

AREA 25			
Discharge Limitations & Monitoring Requirements			
Engine Test Stand 1 (Primary and Drying Bed)	Limit	Reporting Frequency	Sample Type
Measurements			
Metered Flow (gal/day)	1,428	Monthly	Calculated
Distance from Freeboard (feet)	≥2	Quarterly	Observation

3.0 SCHEDULE OF COMPLIANCE:

3.1 The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications, which the Administrator may make in approving the schedule of compliance. All compliance deliverables shall be addressed to the attention of the Bureau of Federal Facilities:

Nevada Division of Environmental Protection
Bureau of Federal Facilities
375 E. Warm Springs Road, Suite 200
Las Vegas, Nevada 89119

3.2 The Permittee shall achieve compliance with the Discharge Limitations and Regulatory Levels (NAC 445A.244) upon issuance of the permit.

3.3 No later than fourteen calendar days following a date identified in a schedule for new construction or for physical modification of existing system, the Permittee shall submit either a written notice of compliance or a written notice of noncompliance. In the latter case, the notice shall include the cause, the known or expected effect upon the ability to comply with the terms and conditions of the permit or schedule, and the actions necessary to meet the next scheduled obligation.

3.4 Alternative methods for flow monitoring, sample collection or treatment shall be submitted to the NDEP for review and concurrence within one hundred and eighty days subsequent to two consecutive quarters of the inability to monitor the systems as authorized by this permit.

3.5 The Permittee shall submit two copies of an updated O&M (Operations and Maintenance) Manual for review by the NDEP within thirty days of permit issuance as addressed in Section 5.0 of this permit. The O&M Manual shall be prepared by a Nevada Registered Professional Engineer or other Division approved qualified person.

4.0 MONITORING AND REPORTING:

4.1 Sampling and Measurements: Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Analyses shall be performed by a State of Nevada certified laboratory. Results from this laboratory must accompany the Discharge Monitoring Report (DMR).

4.2 Annual Report: The fourth quarter report shall contain plots of concentration (y-axis) versus date (x-axis) for each analyzed constituent identified in the Discharge Limitation Tables in Section 2.5. The plots shall include data from the preceding five years, if available. Any data point from the current year that is greater than the limits identified in the applicable tables and conditions above must be explained by a narrative.

4.3 Quarterly Reporting: Monitoring results obtained during the previous three (3) months shall be summarized for each month and reported on a DMR Form received in this office no later than the 28th day of the month following the completed reporting period. The first report is due on April 28, 2022. An original signed copy of these, and all other reports required herein, shall be submitted to the NDEP at the address listed in Section 3.1 of this permit.

4.4 Discharge Monitoring Reports: Analytical data and monitoring results shall be summarized and/or tabulated for presentation in DMRs. Laboratory reports for quantitative analyses conducted by State of Nevada certified laboratories must accompany DMR submittals.

4.5 Schedule: DMRs shall be received by the 28th day of the month following the third month of each quarter (reporting period). Quarterly and annual reporting periods are based on the standard annual cycle, January 1 through December 31. The first report is due on April 28, 2022. If no discharge occurs during the reporting period, report "no discharge" on the submitted DMR.

4.6 Recording the Results: For each measurement or sample taken pursuant to the requirements of this permit, the Permittee shall record the following information:

4.6.1 The exact place, date, and time each sample was taken or measurement or observation made.

4.6.2 The person(s) who collected the sample, did the field measurement, or made the field observation.

4.6.3 The date(s) on which each sample was analyzed.

4.6.4 The analytical, observational, and measurement methods used.

4.6.5 The validated results of all required sample analyses and calibrated measurements.

4.6.6 The identification of the Nevada-certified wastewater laboratory which performed each analysis.

4.7 Additional Monitoring by Permittee: If the Permittee monitors any chemical, physical, biological, or radiological parameter at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

4.8 Test Procedures: Test procedures for the analysis of pollutants shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the Act, under which such procedures may be required unless other procedures are approved by the NDEP. Other procedures used may be:

4.8.1 Selected from SW-846.

4.8.2 Selected from 40 CFR 503.

4.8.3 An alternate test procedure approved by the NDEP, Environmental Laboratory Services and the Federal Environmental Protection Agency (EPA).

4.8.4 All laboratory analyses conducted in accordance with this discharge permit must have detection at or below the permit limits.

4.8.5 All analytical results must be generated by analytical laboratories certified by the State of Nevada laboratory certification program.

4.9 Reporting Limits: Unless otherwise approved by the NDEP, the approved method of testing selected for analysis must have reporting limits which are:

4.9.1 Half or less of the discharge limit; or if there is no limit,

4.9.2 Half or less of the applicable water quality criteria; or if there is no limit or criteria,

4.9.3 The lowest reasonably attainable using an approved test method.

4.9.4 This requirement does not apply if a water quality standard is lowered after the issuance of this permit; however, the Permittee shall review methods used and by letter notify the NDEP if the reporting limit will exceed the new criterion, and if so the NDEP may reopen the permit to impose new monitoring requirements.

4.10 Waiver: Should the NDEP grant a waiver of certain permit containment and/or monitoring requirements to any facility, the NDEP may require the Permittee to collect samples more frequently than specified in Section 2.0. Should the NDEP require any increased requirements, the NDEP will provide them in writing to the Permittee for the specific facility and identify it in Section 2.0 of a revised permit.

4.11 Certified Operators: The facility shall be operated by a Nevada Certified Class Operator (or higher) of Classification:

None		Grade 1	X	Grade 2		Grade 3		Grade 4	

4.12 Water Quality Standards: There shall be no discharge of substances that would cause the groundwater quality to degrade below drinking water standards.

4.13 Solid Waste Management: All solid, toxic, or hazardous waste shall be properly handled and disposed of pursuant to applicable laws and regulations. Any sludge generated during this operation shall be characterized and disposed of in accordance with local, State, and Federal regulations. Sampling and analysis of pond sediments is required for closure of a wastewater treatment pond or wastewater treatment pond system. The Permittee shall have the samples analyzed for those constituents identified in 40 CFR 503 and also for Toxicity Characteristic (see 40 CFR 261.24), using the Toxicity Characteristic Leachate Procedure (see 40 CFR 261) for the contaminants listed in Table 1 of 40 CFR 261.24.

4.14 Presumption of Possession and Compliance: Copies of this permit, any subsequent modifications, and the O&M Manual shall be maintained at the permitted facility at all times.

4.15 Records Retention: All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation, shall be retained for a minimum of five years, or longer if required by the Administrator.

4.16 Other information: Where the Permittee becomes aware of failure to submit any relevant facts in a permit application or the submittal of incorrect information in a permit application or in any report to the Administrator, the Permittee shall promptly submit such facts or information.

4.17 EPA Order CIO 2105.0: All environmentally related measurements acquired in compliance with the terms or conditions of this permit shall satisfy the quality assurance and quality control provisions of EPA Order CIO 2105.0 (formerly 5360.1), such that all reported measurements are of known quality.

4.18 Signatory Requirements:

4.18.1 All reports required by this permit and all responses to relevant requests from the Administrator shall be signed by either the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic united of the agency or a delegate of the senior executive officer. A person is a delegate signatory only if:

4.18.1.a The delegation is made in writing by the chief or the senior executive officer.

4.18.1.b The delegation specifies the individual by name or by function.

4.18.1.c A copy of the written delegation is on file with this permit in the NDEP office.

4.18.2 The person signing a report or response to a request subsequent to this permit shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

4.18.3 Knowingly making a false statement on any required report or written response may be cause to seek criminal penalties, as provided by NRS 445A.705.

5.0 TREATMENT FACILITIES AND OPERATIONS:

5.1 The facility shall be operated in accordance with the NDEP approved O&M Manual.

5.2 An operations logbook (physical or electronic), including the name of the operator, date, time, and general condition of the wastewater treatment facility, must be kept and maintained on the site premises. The operator shall inspect the site at the frequency prescribed in the O&M Manual.

5.3 Color photograph(s) of the permitted facilities and operations, labeled and dated, shall be submitted to this office annually as part of the fourth quarter DMR.

5.4 The Permittee, with the concurrence of the NDEP, may designate pond systems to receive septage. Septage from holding tanks must be discharged into a wastewater treatment pond with a head works meter, except when the septage is not acceptable for pond treatment.

5.4.1 Wastewater treatment pond systems designated to receive septage and/or portable toilet waste include Area 6 Yucca Lake, Area 12 Camp (Secondary), Area 23 Mercury (Primary), and Area 25 Engine Test Stand (Primary).

5.4.2 Wastewater treatment pond systems that have the ability to switch between septic tanks and basins (depending on population load) include Area 12 Camp, DAF, and U1a Complex. Report in the quarterly DMR when a switch between the septic tanks and basins occur.

5.5 No wastewaters containing petroleum products will be discharged into treatment ponds without first being processed through an oil/water separator. Other methods require the NDEP concurrence.

5.6 Ponds / Infiltration Basins Management:

5.6.1 There shall be no objectionable odors occurring more than 300 feet from the collection system or wastewater treatment and disposal facilities.

5.6.2 There shall be no discharge from the collection system or wastewater treatment and disposal facilities except as authorized by this permit.

5.6.3 There shall be no discharge of substances that would cause a violation of water quality standards of the State of Nevada.

5.6.4 There shall be no discharge of floating solids or visible foam in other than trace amounts.

5.6.5 The wastewater treatment ponds shall be adequately posted (signage on all sides of fencing) and properly fenced (fully enclosed).

5.6.6 Inspections and maintenance, including the periodic removal of materials to restore capacity, shall be conducted in accordance with the approved O&M Manual. Summaries of these activities shall be included in the quarterly reports.

5.6.7 Leakage rates shall be reported in units of average gallons per day per acre, per pond (U1a pond system).

5.6.8 Damaged ponds or liners shall be repaired. The NDEP shall be notified in writing within one week of discovery, and a repair plan shall be submitted within one month.

5.6.9 The Permittee shall maintain a minimum freeboard depth of 3 ft. for large ponds (greater than 1 acre). A freeboard depth of 2 ft. for small ponds (less than or equal to 1 acre) may be acceptable when approved by the NDEP (Section 2.5).

5.6.10 If any wastewater from the Permittee's facility is placed in ponds, such ponds shall be located and constructed so as to:

5.6.10.a Contain, with no discharge, the 25-year 24-hour flood event at said location.

5.6.10.b Withstand, with no discharge, the 100-year 24-hour flood event of said location.

5.6.10.c Prevent escape of wastewater by leakage other than as authorized by this permit.

5.6.10.d Overtopping of the pond due to flooding is considered an unauthorized discharge into the surrounding environment.

5.7 Facility Construction:

5.7.1 All facility industrial process and/or wastewater collection and disposal systems shall be constructed in conformance with plans approved by the NDEP. All plans must be approved by the NDEP prior to the start of construction and must be stamped by a Professional Engineer licensed in the State of Nevada (NV P.E.). All changes to any plans approved by the NDEP must be stamped by a NV P.E. and re-approved prior to implementation.

5.7.2 Any new pond intended to receive wastewater will be designed for total containment or any existing pond will be considered to have achieved total

containment as demonstrated by an acceptable hydrogeological model based on site-specific soil characteristics and/or on its design specifications and conform to the NDEP's containment criteria in effect at the time of construction.

5.8 Flow Rate Notification: The Permittee shall notify the Administrator, by letter, not later than ninety days after the 30-day average daily influent flow rate first equals or exceeds 85% of the design treatment capacity of any one of the wastewater treatment pond systems listed in Section 2.5 of this permit. The letter shall include:

5.8.1 The 30-day average daily influent flow rate.

5.8.2 The maximum 24-hour flow rate during the 30-day period reported above and the date the maximum flow occurred.

5.8.3 The Permittee's estimate of when the 30-day average influent flow rate will equal or exceed the design treatment capacity of the Permittee's facility.

5.8.4 A status report on the treatment ponds which will outline, but not be limited to, past performance, remaining capacity of the limiting treatment and disposal units or sites, past operational problems and improvements instituted, modifications to the treatment ponds which are needed to attain the permitted flow rate due to changing site specific conditions or design criteria.

5.8.5 The Permittee's schedule of compliance to provide additional treatment capacity before the 30-day average daily influent flow rate equals the present design treatment capacity of the Permittee's facility.

5.9 Solids Management:

5.9.1 All solid waste screening and sewage sludge shall be disposed or reused in a manner approved by the NDEP and Nye County.

5.9.2 Facilities that generate and dispose or prepare sewage sludge for reuse shall monitor the concentrations of arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium and zinc and report in mg/dry Kg of sludge as outlined below.

5.9.3

Dry Sludge Disposal rate in tons/year	Frequency
>0 - <320	each year
>320 - <1,654	once a quarter
>1,654 - <16,538	once every 2 months
>16,538	once a month

5.9.4. A monitoring report which includes the analytical data, volume disposed, facility name, address, phone number and contact where sludge was disposed or reused shall be submitted with the quarterly DMR. Facilities which sample annually shall submit the information annually with the fourth quarter DMR.

5.10 Leak Detection Systems (U1a lysimeters):

5.10.1 The suction lysimeters, devices for collecting water from porous media, shall be designed to detect water. The suction lysimeters shall be sampled quarterly for this permit cycle to determine the baseline leakage rate of the pond.

5.10.2 All leakage rates shall be reported in the DMR.

5.10.3 The maximum allowable leakage rate for the primary liner is 500 gallons/acre-day. The action leakage rates for the primary liner should be as follows (note: a more restrictive action leakage rate schedule may be required on a case-by-case basis):

5.10.3.a When the leakage rate exceeds 125 gallons/acre-day, the facility shall develop a plan to identify the source of the leakage. This plan shall be submitted for review and approval within thirty (30) days upon discovery of the leakage.

5.10.3.b When the leakage rate exceeds 250 gallons/acre-day, the approved plan shall be initiated.

5.10.3.c When the leakage rate exceeds 500 gallons/acre-day, the Permittee shall notify the NDEP in writing within five business days, shall cease discharge to the identified leaking pond(s), and shall implement all necessary corrective action measures to mitigate the liner leakage.

5.10.3.d Leak-detection monitoring wells may be required to assess impacts to environment.

5.10.4 If no leaks have been measured for two years, the Permittee may apply to reduce monitoring of lysimeters to every other year.

5.11 The Permittee shall include all the following requirements, measurements, and observations in an approved O&M Manual:

5.11.1 Wastewater treatment ponds shall have a staff gauge installed in them to indicate the water level depth. The water level in each pond shall be measured monthly and recorded in the operations logbook maintained at the site.

5.11.2 For systems which do not contain automated influent flow monitoring each pond and basin will be fitted with a staff gauge, reliable to three (3) inches, or an approved alternative method, which marks the distance from the bottom of the restive cell to its crest.

5.11.3 Each staff gauge, or an approved alternative method, in the final infiltration basin will be prominently marked with a line at an elevation equal to the crest of the basin's embankment and with a line (free board limit and maximum operation level) sixty centimeters below the crest of the embankment.

5.11.4 The Permittee will establish a routine schedule to visit each facility, no less than every two weeks. During this visit, the depth of the liquid in each basin shall be read from the staff gauge, or an approved alternative method. For each basin, the depth of the liquid as the distance from the free board limited shall be reported quarterly.

5.11.5 The Permittee shall use standardized flow equations to determine the estimated influent flow rates on those facilities without metering devices at the head works. To establish the flow rate estimates for the quarterly monitoring report, the Permittee must use the fluid levels in the pond which are read on a routine schedule and recorded.

5.11.6 As a part of a routine schedule, each discrete facility shall be inspected with respect to:

5.11.6.a Weeds and other rooting growth in the earthen embankment.

5.11.6.b Tunneling or burrowing by mammals, insects, or reptiles.

5.11.6.c Erosion or sloughing of the interior or exterior slopes of the embankment.

5.11.6.d The presence of floating debris or mats of biomass.

5.11.6.e The physical condition of any existing perimeter fencing. However, fencing to protect the built facilities from damage by large or burrowing animals or by unauthorized access is not required at this time.

5.12 Other Conditions:

5.12.1 The Permittee shall operate the facility in accordance with the approved O&M Manual. For each new system and/or each modification of an existing system, the Permittee must submit a letter with appropriate design drawings to the NDEP describing the new or modified system, provide the design calculations or any changes in existing design calculations if applicable, and the timeline and effective

date of completion. After the NDEP approval is received the construction may begin. Once the completed system has been approved for operation, a copy of the revised O&M Manual portion(s) must be submitted to the NDEP at the address given in Section 3.1 within ninety days of operational approval. The Permittee shall amend the text of the O&M Manual, to account for new systems or modification of existing systems, such that the text of the O&M Manual agrees with the Wastewater Treatment Pond Locations listed in Table 1.

5.12.2 Closure: Closure of an existing active wastewater treatment pond or pond system requires the Permittee to submit a closure plan and schedule to the NDEP for review and approval sixty days prior to closing any pond permitted for discharge by this permit. The Permittee shall:

5.12.2.a Submit a letter to the NDEP detailing the reason for closure and the closure timeline.

5.12.2.b Sample the sludge and have it analyzed according to Sections 4.13 and 5.9 of this Permit.

5.12.2.c Submit a letter with the results of the sludge analysis to the NDEP.

5.12.2.d Upon approval of the Closure Plan by the NDEP, the Permittee shall implement the plan.

5.12.2.e Dispose of the sludge in the proper landfill.

5.13 Summary of Noteworthy or Significant Findings:

5.13.1 The operator shall note in the logbook each regular, routine, or special inspections to include the name of the inspector, date, time, and discrepancies discovered by the inspector or the inspection team, including the general condition of the wastewater treatment ponds, infiltration basins, and the collection system. The operator will include a concise summary of the noteworthy and significant logbook findings as narrative attached to the DMR.

6.0 GENERAL REQUIREMENTS:

6.1 Systems Operation:

6.1.1 The Permittee shall at all times maintain in good working order all wastewater treatment ponds or control systems, all disposal devices, and all collection systems, including all lift or pump stations, trunk line mains, and sewer mains (up to, but not including building laterals) installed or used by the Permittee to achieve compliance with the terms and conditions of this permit.

6.1.2 The Permittee shall at all times effectively operate all wastewater treatment ponds or control systems, all disposal systems, and all collection systems, including all lift or pump stations, trunk line mains, and sewer mains (up to, but not including building laterals) installed or used by the Permittee to achieve compliance with the terms and conditions of this permit.

6.1.3 The wastewater treatment and disposal systems shall be configured and maintained in conformance with the engineering drawings and materials specifications approved by, and in the files of, the NDEP.

6.2 Change in Discharge:

6.2.1 Any anticipated system expansions or treatment modifications or reductions or closures which will result in new, different, or increased capability to discharge must be reported by notice to the permit-issuing agency. Any changes to a wastewater treatment pond system must comply with NAC 445A.283 to 445A.292.

6.2.2 Pursuant to NAC 445A.262, the permit may be modified to specify and limit any pollutants not previously controlled.

6.2.3 Upon request by the Permittee and after public notice, the terms and conditions of this permit or any consequent schedule of compliance can be revised or modified, if a good and valid cause (strike, flood, materials shortage or other event over which the Permittee has little or no control or which is reasonably unexpected) exists for such action. Modification necessary to comply with new and relevant regulations does not require a public participation process.

6.3 Minor Modifications: With the consent of the Permittee and without public notice, the NDEP may make minor modifications in a permit to:

6.3.1 Correct typographical errors.

6.3.2 Clarify permit language.

6.3.3 Change the construction schedule for a new discharge provided that all equipment is installed and operational prior to discharge.

6.3.4 Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the permit and does not interfere with attainment of the final compliance date.

6.3.5 Delete an outfall when the discharge from that outfall is terminated and is not more than 120 days after the date specified in the permit and does not interfere with attainment of the final compliance date.

6.4 Transfer of Ownership or Control: This permit is exclusive to the Permittee, the NNSA/NFO, and cannot be transferred, assigned, or converted.

6.5 Re-issuance or Re-application: The NDEP will re-authorize the permit encompassing all operating systems only after receiving and reviewing the completed application forms submitted by the Permittee. The Permittee shall submit completed application forms encompassing all wastewater treatment ponds on the NNSS, using the current application forms in use. Application submittal shall not take place later than one hundred and eighty days before expiration of this general permit. Under extenuating circumstances, the NDEP can, on its own, or in concurrence with a request of the Permittee, extend the existing permit coverage for a time to be determined by review of the conditions existing at that time.

6.6 Right of Entry: The Administrator recognizes that prescribed levels of security clearance are necessary for lawful entry into certain systems or areas of systems on the NNSS. With respect to such prescribed levels of security clearance, the Permittee shall allow the Administrator or his authorized representative to:

6.6.1 Enter upon the Permittee premises where a source is located or in which any records are required to be kept under the terms and conditions of this permit.

6.6.2 At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit.

6.6.3 Inspect any monitoring equipment or monitoring method required in this permit.

6.6.4 Perform any necessary sampling to determine compliance with this permit or to sample any source.

6.7 Adverse Impact: The Permittee shall take all reasonable steps to minimize any adverse impact to the waters of the state ensuing from noncompliance with any effluent limitation

specified in this permit, including such accelerated or additional monitoring necessary to determine the magnitude and effect upon the impacted resources of the state.

6.8 Toxic Pollutants: If a toxic effluent standard or prohibition is promulgated by the Nevada State Environmental Commission for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit or any consequent schedule of compliance, this permit or affected schedule shall be revised or modified in accordance with the toxic effluent standard or prohibition and the Permittee shall be notified.

6.9 Liability: Nothing in this permit shall be construed to preclude any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable federal, state or local laws, statutes, regulations, or ordinances. The conditions agreed to in this permit hereby supersede all previous agreements.

6.10 Property Rights: The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws, statutes, regulations, or ordinances.

6.11 Severability: The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision and the remainder of this Permit shall not be affected.

6.12 Noncompliance, Unauthorized Discharge, Bypass and Upset:

6.12.1 Any diversion, bypass, spill, overflow or discharge of treated or untreated wastewater from wastewater treatment ponds or conveyance facilities under the control of the Permittee to navigable waters is prohibited except as authorized by this permit or in accordance with the NDEP's Spill Reporting Policy. The NDEP may take enforcement action for a diversion, bypass, spill, overflow, or discharge of treated or untreated wastewater to waters of the state except as authorized by this permit or in accordance with the NDEP's Spill Reporting Policy. In the event the Permittee has knowledge that a diversion, bypass, spill, overflow or discharge not authorized by this permit or in accordance with the NDEP's Spill Reporting Policy is probable, the Permittee shall notify the Administrator immediately.

6.12.2 The Permittee shall notify the Administrator within twenty-four (24) hours of any diversion, bypass, spill, upset, overflow or release of treated or untreated discharge from wastewater treatment ponds or conveyance facilities under the control of the Permittee other than that which is authorized by the permit or in accordance with the NDEP's Spill Reporting Policy. A written report shall be submitted to the

Administrator within five (5) days of diversion, bypass, spill, overflow, upset or discharge, detailing the entire incident including:

6.12.2.a Time, date, and exact location of the event.

6.12.2.b The estimated or actual quantity released.

6.12.2.c A map or diagram of the flow path, depicting affected channels, tributaries to rivers or lakes, or other bodies of water of the state.

6.12.2.d The specific cause or causes of the discharge.

6.12.2.e The corrective actions taken to protect the public health or to mitigate damage to the resources of the impacted area.

6.12.2.f The action or changes necessary to prevent recurrence of the event.

6.12.3 In the event of specific, accidental, or naturally caused discharges of potential contaminants, the Permittee shall collect a grab sample (or an equal volume composite for those systems with two ponds) from the pond adjacent to the influent pipe of each system or from the area of the spill or overflow. Each sample shall be analyzed for the contaminants listed in Table 3. Each sample (grab or composite) shall be sampled, bottled, preserved, and handled according to the specific requirements described in each method as follows:

6.12.3.a For organic and inorganic contaminants the EPA Publication SW-846, Toxicity Characteristic Leaching Procedure, Test Method 1311 named in 40 CFR Part 261.24.

6.12.3.b For gross alpha and gross beta, EPA Method 600/4-75-008, or its approved equivalent.

6.12.3.c For tritium, EPA Method 600/4-80-032, or its approved equivalent.

6.12.3.d For pH as a standard laboratory measurement.

6.12.3.e Pursuant to this section, no constituent in any pond may exceed the Regulatory Levels in 40 CFR 261.24, EPA's Radionuclide Rule, and 40 CFR 133.102 (Table 3). The Permittee, upon discovery of an increase above the Regulatory Level, shall investigate the cause or causes of the increase by implementing a monthly sampling and analyses of the influent and continue until the Permittee determines the cause or causes of the variance. The monthly sampling shall not be less than three consecutive months and not exceed six months following receipt of the initial sample

analyses. After reporting these data to the NDEP, the Permittee shall use them to identify the cause and take reasonable steps to control, reduce, or eliminate the cause or causes, in accordance with Best Practical Control Technology Economically Achievable. If the average parametric concentrations for three consecutive months are less than the Regulatory Levels, monitoring shall return to the routine conditions as described above. If, however, the average parametric concentrations still exceed the Regulatory Levels after six months, then the Permittee must meet with the NDEP to evaluate what action to take.

Table 3: Constituents of Potential Concern

Organic Contaminants	[1] Regulatory Level (mg/L)	Inorganic Metal Contaminants	[1] Regulatory Level (mg/L)
Benzene	0.5	Arsenic	5.0
Carbon Tetrachloride	0.5	Barium	100
Chlorobenzene	100.0	Cadmium	1.0
Chloroform	6.0	Chromium	5.0
Cresol, Total	200.0	Lead	5.0
1,2-Dichloroethane	0.5	Mercury	0.2
1,1-Dichloroethylene	0.7	Selenium	1.0
2,4-Dinitrotoluene	0.13	Silver	5.0
Hexachlorobenzene	0.13		
Methyl Ethyl Ketone	200.0		
Nitrobenzene	2.0		
Pentrachlorophenol	100.0	**Radioactive Parameters & pH Limit**	
Pyridine	5.0	[2] Gross Alpha	15 pCi/L
Tetrachloroethylene	0.7	[2] Gross Beta	50 pCi/L
Trichloroethylene	0.5	[2] Tritium	20,000 pCi/L
Vinyl Chloride	0.2	[3] Hydrogen ion activity	in the range of 6.0 to 9.0 SU

Sources: [(1)] 40 CFR 261.24, [(2)] EPA Radionuclide Rule, and [(3)] 40 CFR 133.102

6.12.4 The Permittee shall report all instances of noncompliance not reported under Section 6.12 at the time monitoring reports are submitted. The reports shall contain the information listed in Section 6.12.

6.12.5 Bypass not exceeding limitations: The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of the applicable section of Section 6.12.

6.12.6 Anticipated bypass: If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of bypass.

6.12.7 Prohibition of Bypass: Bypass is prohibited, and the Administrator may take enforcement action against a Permittee for bypass, unless:

6.12.7.a Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

6.12.7.b There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.

6.12.7.c The Permittee submitted notices as required under Section 6.

6.13 Fees: For the period of time that the Agreement-in-Principal (AIP) (or equivalent instrument) and its accompanying grant provide funding for the NDEP staff to conduct routine oversight and to inspect the systems covered by this permit, the fees required by NAC 445A.232 shall be deemed to have been paid. If the AIP or funding through the AIP Grant is terminated, the Permittee is then required to submit an annual review and services fee in accordance with NAC 445A.232 and apply for and obtain an individual permit for each of the systems as required by NAC 445A.228. These actions must be completed prior to AIP and the accompanying grant termination unless an extension in writing has been granted by the Administrator.

6.14 Safeguards to Electric Power Failure: In order to maintain compliance with the influent limitations and prohibitions of this permit the Permittee shall either:

6.14.1 Provide at the time of discharge an alternative power source sufficient to operate the wastewater control facilities.

6.14.2 Halt or reduce all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

6.15 Availability of Reports: Except for data determined to be confidential under Nevada Revised Statute (NRS) 445A.665, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the NDEP's Las Vegas Office. As required by the Clean Water Act, influent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445A.710.

6.16 Furnishing False Information and Tampering with Monitoring Devices: Any person who intentionally or with criminal negligence makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained by the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, is guilty of a gross misdemeanor and shall be punished by a fine of not more than $10,000 or by imprisonment. This penalty is in addition to any other penalties, civil or criminal, provided pursuant to NRS 445A.300 to 445A.730.

6.17 Penalty for Violation of Permit Conditions: NRS 445A.675 provides that any person who violates a permit condition is subject to administrative and judicial sanctions as outlined in NRS 445A.690 through 445A.705.

6.18 Permit Modification, Suspension or Revocation: After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

6.18.1 Violation of any terms or conditions of this permit.

6.18.2 Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

6.18.3 A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

6.18.4 A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

6.18.5 Material and substantial alterations or additions to the permitted facility or activity.

6.18.6 The Administrator has received new information.

6.18.7 The standards or regulations have changed.

6.19 Changes to Authorization: If an authorization under Section 4.18 (Signatory Requirements) of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Section 4.18 must be submitted to the Administrator prior to or together with any reports, information, or applications to be signed by an authorized representative.

6.20 Prerogative to Reopen: There shall be no discharge of substances that would cause a violation of water quality standards of the State of Nevada as defined by the permit. The permit may be reopened, and additional limits imposed, if it is determined that the discharge is causing a violation of ambient water quality standards of the State ofNevada.

7.0 DEFINITIONS

7.1 Active Wastewater Treatment Pond System: a wastewater treatment pond system is considered "active" according to this permit if, at a minimum: (1) the wastewater treatment system's primary pond (and the secondary pond, if present) has demonstrated Total Containment and conforms to the NDEP's containment criteria that was in effect at the time the pond(s) were constructed and approved; (2) the wastewater treatment system's primary pond is receiving wastewater flow at least weekly, and (3) the wastewater treatment system primary pond is monitored and sampled.

7.2 Adverse Impact: an intensive or chronic harm to the public health and welfare or to the natural resources of the state.

7.3 Aquifer: a geological formation, group of formations, or part of a formation capable of yielding a significant amount of water, (NAC 445a.812 "Aquifer" defined).

7.4 Basin: an artificial impoundment of wastewater for disposal by infiltration, percolation, evaporation, or any combination thereof.

7.5 Biosolids: non-hazardous sewage sludge or domestic septage as defined in 40 CFR 503.9.

7.6 Building Lateral: a gravity-flow pipeline connecting a building wastewater collection system to a sewer main (also called a house connection, a house sewer, or a service connection).

7.7 Bypass: the intentional diversion of waste streams from any portion of a wastewater treatment facility.

7.8 Composite Sample (flow-rate): the arithmetic mean of no fewer than six individual measurements taken at equal time intervals for 24 hours, or for the duration of discharge, whichever is shorter.

7.9 Composite Sample (non flow-rate): a combination of no fewer than six individual flow-weighted samples obtained at equal time intervals for 24 hours, or for the duration of discharge, whichever is shorter. Flow-weighted sample means that the volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling.

7.10 Daily Maximum: the highest measurement during the monitoring period.

7.11 Design Flow: the calculated volume of influent to the pond which it was designed to contain during the legally permitted daily operation.

7.12 Discharge: any addition of a pollutant or pollutants to water (NRS 445A.345)

7.13 Discrete Sample: any individual sample collected in less than 15 minutes.

7.14 Equal Volume Composite: a set of grab samples from several locations within a single pond or from the same approximate location in several ponds which are combined by equal volume proportions into a single sample.

7.15 Facultative Pond: a wastewater treatment pond between 4 to 10 feet deep, with an aerobic layer overlying an anaerobic layer. Principal oxygenation is via algae photosynthesis and surface (non-mechanical) re-aeration.

7.16 Grab Sample: a discrete, single, or individual sample collected in less than 15 minutes.

7.17 Headworks: apparatus for controlling flow into wastewater treatment pond.

7.18 Pond: a body of water designed to receive, hold, and treat wastewater through a combination of physical, biological, and chemical processes. If necessary, a Pond is lined with an impermeable material, such as clay or an artificial liner, to prevent leaks to the groundwater.

7.19 Regulatory Levels: that when regulatory concentrations when exceeded, requires a corrective response. Regulatory Levels are used to express a health or physical hazard.

7.20 Sewer Main: the collection pipe to which building laterals are connected (also called a collection main).

7.21 Sewage Sludge: a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a wastewater treatment pond. Sewage sludge includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a wastewater treatment pond.

7.22 Total Containment: a system that has been engineered by the installation of an impermeable liner or bio-plug, etc. to significantly minimize the rate of loss of its liquid contents to the subsurface to less than 500 gallons per day per acre.

7.23 Trunk Line Main: a sewer line that receives wastewater from multiple tributary branches and sewer lines and serves as an outlet for a large territory or is used to feed an intercepting sewer (also called a Main Sewer and a Trunk Sewer).

7.24 Upset: an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance

to the extent caused by operational error, improperly designed wastewater treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

7.25 Waters of the State: all waters situated wholly or partly within or bordering upon this state, including but not limited to, all streams, lakes, ponds, impounding reservoirs, marshes, water courses, waterways, wells, springs, irrigation systems, and drainage systems; and all bodies or accumulations of water, surface and underground, natural or artificial.

7.26 7-day Average Concentration: the arithmetic mean of measurements made during a week. If there is more than one measurement per day, the measurements may be averaged in accordance with Section 4.7 (Additional Monitoring).

7.27 30-day Average Concentration: the arithmetic mean of measurements made during a month (excluding fecal coliform bacteria). If there is more than one measurement per day, the measurements may be averaged in accordance with Section 4.7 (Additional Monitoring). The "30-day average concentration" for fecal coliform bacteria means the geometric mean of measurements made during a month. The geometric mean is the "nth" root of the product of "n" numbers. Geometric mean calculations where there are non-detect results for fecal coliform shall use one half the detection limit as the value for the non-detect results.

7.28 30-day Average Discharge: the total discharge during a month divided by the number of samples in the period for that discharge facility. Where less than daily sampling is required by this permit, the 30-day average discharge shall be determined by the summation of all the measured discharges divided by the number of samples during the period when the measurements were made.

7.29 25-year, 24-hour Storm Event: a precipitation event with a probable recurrence interval of once in twenty-five years, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May, 1961, or equivalent regional or state rainfall probability information developed from this source.

7.30 100-year, 24-hour Storm Event: a precipitation event with a probable recurrence interval of once in one hundred years, as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May, 1961, or equivalent regional or state rainfall probability information developed from this source.

8.0 ACRONYMS

8.1 AIP: Agreement in Principle

8.2 BOD_5: Biochemical Oxygen Demand

8.3 DMR: Discharge Monitoring Report

8.4 gpd: gallons per day

8.5 lb/day: pounds per day

8.6 mL: milliliter

8.7 mg/L: milligrams per liter

8.8 M&R: Monitoring and Reporting

8.9 NDEP: Nevada Division of Environmental Protection

8.10 NNSA/NFO: National Nuclear Security Administration/Nevada Field Office

8.11 NNSS: Nevada National Security Site

8.12 O&M: Operations and Maintenance [Manual]

8.13 pH: Hydrogen ion concentration

8.14 RIB: Rapid Infiltration Basin

8.15 TDS: Total Dissolved Solids

8.16 TSS: Total Suspended Solids