

ATTACHMENT A TO ACLC R7-2020-0024
ADMINISTRATIVE CIVIL LIABILITY PENALTY METHODOLOGY
NCA MANAGEMENT CO., LLC
SAN BERNARDINO COUNTY

Administrative civil liability may be imposed pursuant to the procedures described in California Water Code section 13323. The Complaint alleges the acts or failures to act that constitute a violation of law, the provision of the law authorizing civil liability to be imposed, and the proposed civil liability.

Pursuant to Water Code section 13327, in determining the amount of any civil liability, the Regional Water Board is required to take into account the nature, circumstances, extent, and gravity of the violation or violations, whether the discharges are susceptible to cleanup or abatement, the degree of toxicity of the discharges, and, with respect to the violator, the ability to pay, the effect on ability to continue business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violations, and other matters that justice may require.

The State Water Resources Control Board (State Water Board) *Water Quality Enforcement Policy* (Enforcement Policy) provides a calculation methodology for determining administrative civil liability. The calculation methodology includes an analysis of the factors in Water Code section 13327, and it enables fair and consistent implementation of the Water Code's liability provisions.

The Colorado River Basin Regional Water Quality Control Board (Regional Water Board) Prosecution Team prepared this methodology consistent with the Enforcement Policy's administrative civil liability calculation methodology.

Background

On September 13, 2018, NCA Management Co., LLC ("Discharger") enrolled under the State Water Board's *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*, Order No. WQ 2017-0023-DWQ (General Order). As part of the enrollment process, the Discharger was provided with notice that it is responsible for all applicable requirements in the General Order, the *Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation* (Cannabis Policy), and the site-specific requirements of the Conditional Waiver.

On June 25, 2019, Regional Water Board staff conducted an inspection of the Discharger's Site. During the inspection, staff observed wastewater from a reverse osmosis filtration system discharging into a floor drain that led to the Site's onsite wastewater treatment system (OWTS). The Discharger was informed that the discharges of cannabis cultivation wastewater to an OWTS was in violation of the requirements of the Cannabis Policy and General Order, and inconsistent with the information the Discharger submitted when applying for enrollment in the General Order.

Step 1. Potential for Harm for Discharge Violations

Actual harm or potential harm to the water body's beneficial uses caused by the violation are determined using a three-factor scoring system to quantify: (1) the degree of toxicity of the discharge; (2) the actual harm or potential harm to beneficial uses; and (3) the discharge's susceptibility to cleanup or abatement for each violation or group of violations. A numeric score

is determined for each of the three factors. These scores are then added together to determine a final Potential for Harm score. Based on the scores for toxicity, harm to beneficial uses, and cleanup susceptibility, and as further detailed below, a score of **6 (six)** is assigned to Step 1 of the calculation methodology.

A. Factor 1: The Degree of Toxicity of the Discharge

The evaluation of the degree of toxicity considers the physical, chemical, biological, and/or thermal characteristics of the discharge, waste, fill, or material involved in the violation or violations and the risk of damage the discharge could cause to the receptors or beneficial uses. A score between 0 (negligible risk) and 4 (significant risk) is assigned based on a determination of the risk or threat of the discharged material on potential receptors. Potential receptors are those identified considering human, environmental, and ecosystem health exposure pathways. Evaluation of the discharged material’s toxicity should account for all the characteristics of the material prior to discharge, including, but not limited to, whether it is partially treated, diluted, concentrated, and/or a mixture of different constituents.

The reverse osmosis (RO) process creates two outflows: one stream containing reduced constituent concentrations and a second stream containing increased constituent concentrations, including minerals and other dissolved solid materials. The stream containing increased constituent concentrations is a wastewater. The RO wastewater was combined with irrigation tailwater and other industrial wastewaters generated onsite to form the cannabis industrial wastewater collected in the OWTS.

The Discharger sent water quality sample analysis results from onsite wastewater to the Regional Water Board. The samples were collected on October 23, 2019 and included a sample of water from the cannabis industrial wastewater holding tank. Mohave Environmental Laboratory reported constituent concentrations for the samples. The concentrations for the most concerning constituents are identified in Table 1.

Table 1: Reported Constituent Concentrations in Wastewater Stream

Chemical Constituent	RO Waste¹ Measured Concentration (mg/L)	Maximum Contaminant Level (mg/L)
Arsenic	0.0096	0.01 (0.004 µg/L ²)
Sodium	460	30-60 ³
Total Dissolved Solids	2,600	500 ⁴ /1500 ³ (Recommended/Short Term)

Soluble inorganic arsenic is acutely toxic. Arsenic is a confirmed carcinogen and ingestion of arsenic can pose a risk of cancer of the skin and internal organs. Arsenic can also result in several non-cancer effects including heart attacks, strokes, high blood pressure, liver and nerve damage, developmental defects, and skin abnormalities. The Office of Environmental

¹ Described in the response to the NOV as the combined industrial wastewater contained in a holding tank

² Public health goal (Office of Environmental Health Hazard Assessment)

³ Consumer acceptable level guidance for states (United States Environmental Protection Agency)

⁴ Secondary maximum contaminant level (United States Environmental Protection Agency and California Code of Regulations)

Health Hazard Assessment (OEHHA) an agency under the California Environmental Protection Agency, establishes public health goals (PHG) for contaminants in drinking water. The PHG is the level of a chemical contaminant in drinking water that does not pose a significant risk to health from a lifetime of exposure. PHGs are not regulatory standards, they are levels public water systems should strive to achieve if feasible. The PHG for arsenic is 0.004 micrograms per liter. The concentrated reverse osmosis wastewater estimate of arsenic was 2,400 times the PHG at 0.0096 milligrams per liter or 9.6 micrograms per liter. Although the estimate did not exceed the maximum contaminant level (MCL) of 0.01 milligrams per liter, USEPA standard for drinking water quality, it came very close. (OEHHA 2004)

Sodium primarily impacts taste and aesthetics of water with health impacts on individuals requiring a low sodium diet. USEPA Drinking Water Advisory recommends sodium concentrations in drinking water between 30 and 60 milligrams per liter based on esthetic effects (i.e. taste) (USEPA 2003). The reported sodium concentrations were 460 milligrams per liter, seven to fifteen times the recommended federal concentration. For individuals on a very low sodium diet (500 milligrams per day), USEPA recommends that drinking-water sodium not exceed 20 milligrams per liter. These individuals include those at risk of cardiovascular disease and others at risk of side effects from increased blood pressure (hypertension), including individuals with limited kidney functionality.

Total dissolved solids (TDS) is the term used to describe the inorganic salts and small amounts of organic matter present in solution in water. TDS is a general indicator of water quality and potential concerns. Higher TDS levels can affect corrosion and encrustation in water distribution systems and impact the taste of water. Drinking water with TDS levels above 1,200 milligrams per liter are considered unacceptable. While TDS alone cannot indicate health concerns, individual constituents that comprise TDS, can present health concerns. TDS levels in the reverse osmosis wastewater are reported at 2,600 milligrams per liter, significantly exceeding the recommended MCL of 500 milligrams per liter and concentrating potentially harmful constituents. (World Health Organization 2003)

A septic tank acted as the primary treatment component of the OWTS used during the duration of the discharge. During that time, both cannabis industrial wastewater and domestic wastewater were collected in the septic tank. Therefore, diluting of constituents in the cannabis industrial wastewater may have occurred. However, industrial wastewater is not expected to undergo meaningful treatment in a septic tank and, thus, the entire total pollutant load (i.e., constituent mass) entering the septic tank would not have been meaningfully reduced. Additionally, domestic wastewater treatment, typically driven by microbes in the septic tank, could have been disrupted, thus concentrating and increasing toxicity of constituents in the domestic wastewater. Without exact information on the diluting and concentrating effects of the comingled wastewaters, the most conservative approach is to focus on the total pollutant load (i.e., constituent mass) from the industrial wastewater that was assumed to have both entered and exited the septic tank to the disposal system.

The reported arsenic concentration was approximately 2,400 times the PHG and 96 percent of the primary MCL, posing a long-term toxicity (carcinogenic) concern. However, the concentration of arsenic was less than the primary MCL and thus meets the drinking water standard. The reported sodium concentration could adversely impact the health of sodium-sensitive populations. The reported TDS concentration was approximately five times the recommended MCL, and the reported sodium concentration was approximately ten times the

consumer acceptance level range. The characteristics of the discharged reverse osmosis wastewater therefore posed an **above moderate** risk or threat to potential receptors.

The Enforcement Policy defines above-moderate as:

Discharged material poses an above-moderate risk or a direct threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material exceed known risk factors or there is substantial threat to potential receptors).

Accordingly, a score of **3 (three)** is assigned to Factor 1.

B. Factor 2: Actual Harm or Potential Harm to Beneficial Uses

The evaluation of the actual harm or the potential harm to beneficial uses factor considers the harm to beneficial uses in the affected receiving water body that may result from exposure to the pollutants or contaminants in the discharge, consistent with the statutory factors of the nature, circumstances, extent, and gravity of the violation(s). The Water Boards may consider actual harm or potential harm to human health, in addition to harm to beneficial uses. The score evaluates direct or indirect actual harm or potential for harm from the violation. A score between 0 (negligible) and 5 (major) is assigned in accordance with the statutory factors of the nature, circumstances, extent and gravity of the violation.

The Site is located in the Homer Hydrologic Unit. The Colorado River Basin Regional Water Board's *Water Quality Control Plan* (Basin Plan), last amended in 2019, designates beneficial uses for groundwater in the Homer Hydrologic Unit as Municipal and Domestic Supply (MUN), Industrial Service Supply (IND), and Agricultural Supply (AGR).

A well competition report for a property in close proximity to the Site shows the depth to groundwater in the immediate area at 25 feet. The Needles Valley groundwater basin is the source of municipal water for the City of Needles, and there are 11 municipal wells within two miles of the Site. The Site is also located approximately 1,300 feet from the Colorado River. In the Colorado River Basin, the river channel and alluvial deposits allow for rapid infiltration and recharge of the underlying groundwater basin, which makes these areas more vulnerable and susceptible to contamination from surface or shallow subsurface discharges of wastes.

Domestic wastewater discharges from OWTS have been found to infiltrate highly permeable, unsaturated desert alluvium (similar to the sediments found at the Site), at a rate of 0.7 to 1.0 feet per day.⁵ Assuming an infiltration rate of one foot per day, and a depth to groundwater at the Site of approximately 25 feet, it took approximately 25 days for the Discharger's discharge of cannabis wastewater to reach groundwater.

The characteristics of the discharged reverse osmosis wastewater and the total volume discharged, 94,200 gallons or 600 gallons per day, would likely attenuate and therefore pose **below moderate** harm or potential harm to beneficial uses of the groundwater.

The Enforcement Policy defines below moderate as:

Less than moderate harm or potential harm to beneficial uses. A score of below moderate is typified by observed or reasonably expected potential impacts but based on the characteristics

⁵ 1995 US Geological Survey, Potential for Ground-Water Contamination from Movement of Wastewater Through Unsaturated Zone, Upper Mojave River Basin, California

of the discharge and applicable beneficial uses, harm or potential harm to beneficial uses is measurable in the short term, but not appreciable.

Accordingly, a score of **2 (two)** is assigned to Factor 2.

C. Factor 3: Susceptibility to Cleanup or Abatement

A score of 0 is assigned for this factor if the discharger cleans up 50 percent or more of the discharge within a reasonable amount of time. A score of 1 is assigned for this factor if less than 50 percent of the discharge is susceptible to cleanup or abatement, or if 50 percent or more of the discharge is susceptible to cleanup or abatement, but the discharger failed to clean up 50 percent or more of the discharge within a reasonable time. Natural attenuation of discharged pollutants in the environment is not considered cleanup or abatement for purposes of evaluating this factor.

The wastewater discharged to the septic tank (94,200 gallons) was not cleaned up. Accordingly, a score of **1 (one)** is assigned to Factor 3.

Step 2. Assessment for Discharge Violations

The Enforcement Policy provides that the initial liability amount shall be determined on a per day basis using the Potential for Harm score from Step 1 in conjunction with the Extent of Deviation from the Requirement of the violation. (See Enforcement Policy, Tables 1 and 2.)

Water Code section 13350, subdivision (e), provides that civil liability may be imposed administratively by the Regional Water Board in an amount not to exceed five thousand dollars (\$5,000) for each day in which the violation occurs, or an amount not to exceed ten dollars (\$10) per gallon discharged, but not both. Here, the Regional Water Board's Prosecution Team proposes to determine civil liability based on the days of violation

A. Extent of Deviation from the Requirement

Dischargers covered under the Conditional Waiver must comply with the conditions contained in the General Order. The General Order, Section A, requires the Discharger to comply with all requirements described in Attachment A of the Cannabis Policy (also included as Attachment A of the General Order).

Attachment A, Section 1, General Requirements and Prohibitions, Nos. 26 and 27, prohibit the discharge of cannabis cultivation wastewater (including designated wastewater from reverse osmosis filtration systems) to an OWTS.

Attachment A, Section 1, General Requirements and Prohibitions, No. 12, requires compliance with applicable Basin Plans. The Basin Plan Chapter 3, IV. Section D states that discharge of mineralized wastes and brines to OWTS (e.g. septic tank) is prohibited.

The Discharger's representative, Matt Kaplan, showed during the inspection that the reverse osmosis filtration system's wastewater discharged to a floor drain that led to the Site's OWTS. Because Attachment A, Section 1 specifically prohibits the discharge of cannabis cultivation wastewater into an OWTS, the Discharger rendered the requirement ineffective in its essential function by discharging such waste into its septic tank.

Thus, the discharge is a **major** deviation from prescribed requirements.

The calculation methodology defines a major deviation as:

The requirement has been rendered ineffective (e.g., the requirement was rendered ineffective in its essential functions).

Accordingly, based on the Potential for Harm score of 6 (six) and major deviation from the requirements, the per-gallon and per-day factors for the discharge are both **0.28**. (See Enforcement Policy, Tables 1 and 2.)

B. Initial Amount of ACL

The initial liability amount for the discharge is calculated as follows:

(per day factor) x (days of violation) x (maximum per day liability) = Initial Liability Amount

Days of Violation

On June 25, 2019, the Discharger's representative (Matt Kaplan) confirmed that the Discharger's industrial wastewater from the reverse osmosis filtration system discharged to the Site's OWTS. Regional Water Board staff issued a Notice of Violation (NOV) to the Discharger on October 22, 2019, for the unauthorized discharge of cannabis cultivation wastewater to the OWTS. The NOV also requested the Discharger provide the following:

- Submittal of all hauling/disposal records and for the cannabis industrial wastewater generated onsite since the June 25, 2019 Regional Water Board inspection;
- Submittal of information related to the construction, maintenance and use of the septic tank, including records/logs of maintenance and use, volume/capacity, construction details of the system, dates of use, etc;
- Volume determination of all cannabis industrial wastewater discharged into the septic tank, including rates of discharge (daily volumes); and
- Analytical reports showing chemical and physical parameters of the cannabis industrial wastewater (concentrations of nutrients, salts, metals, pH, etc.).

Based on the information provided by the Discharger in response to the NOV, Regional Water Board staff estimate that 600 gallons of cannabis cultivation wastewater was discharged daily into the Site's OWTS. The Discharger informed staff that these discharges began on or around January 21, 2019. Discharger ceased discharging to the OWTS at Regional Water Board staff's request on June 26, 2019. Therefore, between January 21, 2019 and June 26, 2019, the Discharger violated the Conditional Waiver requirements of the General Order, constituting 157 days of violation.

The Site is underlain by alluvial sediments and located approximately 1,300 feet from the Colorado River channel. Based on data obtained from well completion reports/drilling logs from wells near the Site, the depth to groundwater near the Site is 25 feet. The Prosecution Team conservatively used an infiltration rate of 1 foot per day to calculate the number of days it would take wastes discharged into the Site's OWTS to reach groundwater. At an infiltration rate of 1 foot per day, the discharge would reach groundwater in 25-days. Therefore, the Prosecution Team alleges the Discharger discharged an estimated 94,200 gallons (600 gpd x

157 days) of cannabis cultivation wastewater into groundwater for 157-days, between approximately February 15, 2019 and July 22, 2019.⁶

Therefore, applying the 157 days of violation to the equation, the initial liability amount is:

$$(0.28) \times (157 \text{ days}) \times (\$5,000/\text{day}) = \mathbf{\$219,800.00}$$

Step 3. Per Day Assessment for Non-Discharge Violations

This step is not applicable.

Step 4. Adjustment Factors

The Enforcement Policy describes three additional factors related to the violator's conduct that must be considered for modifying the amount of initial liability: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's history of violations. After each of these factors is considered for the violation involved, the applicable factor should be multiplied by the amount for each violation to determine the revised amount for that violation.

A. Culpability

Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier for intentional or negligent behavior. The test for whether a discharger is negligent is what a reasonable and prudent person would have done or not done under similar circumstances. In this case a culpability multiplier of **1.5** has been selected.

On August 21, 2018, the Discharger submitted its application for coverage under the General Order's Conditional Waiver for its indoor cannabis cultivation facility. The method of cannabis cultivation wastewater disposal listed on the application was discharge to an OWTS. Regional Water Board staff emailed the Discharger on August 31, 2018, notifying the applicant that on-site wastewater treatment is not permitted and all industrial wastewater from cannabis operations must be tanked and hauled off-site to continue the application process. On September 6, 2018, Regional Water Board staff communicated with the Discharger's representative (Elyse Kaplan) concerning the Site's wastewater disposal method. Ms. Kaplan confirmed the Discharger's change of method of disposal and stated that all hydroponic/industrial wastewaters generated are contained within a sealed tank or recirculating system with final waste products hauled off-site. Based on this change, the Discharger was accepted and enrolled into the Conditional Waiver and received a Notice of Applicability (NOA) on September 13, 2018, that specifically noted the method of cannabis cultivation wastewater disposal: "Additional information submitted on September 6, 2018, by the Discharger states that all hydroponic/industrial wastewaters generated are contained within a sealed tank or recirculated system with final waste products hauled off site."

Between November 15, 2018 and November 29, 2018, the discharger submitted applications for three adjacent cannabis cultivation sites (not yet constructed). All three applications stated that the method of waste disposal would be tank and haul. On June 25, 2019, Regional Water

⁶ Calculating the days of discharge to groundwater based on the number of days that cannabis cultivation wastewater was discharged to the Site's OWTS is likely a conservative estimate; the natural variability in sediments below the Site will cause dispersal and horizontal migration of the wastewater, which could lead to more days of discharge to groundwater than the number of days of discharge to the OWTS.

Board staff inspected this facility and found that Discharger was discharging its cannabis industrial waste to its OWTS. This is a violation of the Discharger's permit requirements and did not align with the information provided to the Regional Water Board staff.

B. History of Violations

When there is no history of violations, the Enforcement Policy assigns a neutral multiplier of 1.0. There are no adjudicated cases of this nature against the Discharger. Therefore, a neutral multiplier of **1.0** has been selected.

C. Cleanup and Cooperation

This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation. A reasonable and prudent response to a discharge violation or timely response to a Water Board order should receive a neutral adjustment as it is assumed a reasonable amount of cooperation is the warranted baseline. In this case, a neutral Cleanup and Cooperation multiplier of **1.0** has been selected. The Discharger's representative, Matt Kaplan, responded and turned off the reverse osmosis system on June 26, 2019, one day after the Regional Water Board staff inspection. This was a reasonable and prudent response to a discharge violation and a timely response to a Water Board order.

Step 5. Determination of Total Base Liability Amount

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 3.

Total Base Liability = Initial Liability (\$219,800) x Adjustments (1.5) (1.0) (1.0) = **\$329,700.00**

Step 6. Ability to Pay and Continue in Business

If the Water Boards have sufficient financial information necessary to assess the violator's ability to pay the Total Base Liability Amount or to assess the effect of the Total Base Liability Amount on the violator's ability to continue in business, the Total Base Liability Amount may be adjusted to address the ability to pay or to continue in business. The ability of a discharger to pay an ACL is determined by its income (revenues minus expenses) and net worth (assets minus liabilities). The Water Boards are under no obligation to ensure that a violator has the ability to pay or continue in business, but, rather, they are obligated to consider these factors when imposing a civil liability.

Here, the Discharger is a limited liability company with an ongoing business⁷. Regional Water Board staff have no information that would indicate the Discharger has an inability to pay the administrative civil liability amount. Therefore, no adjustment has been made under this step.

Step 7. Economic Benefit

The Enforcement Policy provides that the economic benefit of noncompliance shall be estimated for every violation. Economic benefit is any savings or monetary gain derived from

⁷ State-licensed cannabis businesses, including cannabis cultivators, were deemed an essential business and were allowed to operate during the shelter-in-place directive issued under Executive Order N-33-20.

the act or omission that constitutes the violation. The Enforcement Policy provides that the economic benefit should be calculated using the United States Environmental Protection Agency's (USEPA) Economic Benefit Model (BEN) penalty and financial modeling program unless the Water Board determines, or the discharger demonstrates to the satisfaction of the Water Board, that based on case-specific factors, an alternate method is more appropriate for a particular situation. For this case, the economic benefit is based on the costs avoided by not hauling wastewater from the site. The Discharger's representative provided receipts for wastewater hauling services, which can be used to estimate the avoided costs with reasonable certainty without using the BEN analysis.

In this case the Discharger discharged 94,200 gallons of wastewater to a septic tank. The Discharger has provided documentation that wastewater hauling would be \$0.35 per gallon. Regional Water Board and Office of Enforcement staff conducted the BEN analysis based on the following assumptions: (1) Days in violation: 157 days (January 21, 2019 – June 27, 2019); (2) Volume discharged: 600 gallons per day for 157 days = 94,200 gallons; (3) Delayed cost: 94,200 gallons at \$0.35 per gallon = \$32,970; (4) Payment date: date of hearing, September 3, 2020; (5) Taxes: State income tax only estimate the cost of disposal for 94,200 gallons of wastewater at \$0.35 per gallon. The BEN analysis of economic benefit is: \$31,184.

Step 8. Other Factors as Justice May Require

Regional Water Board staff members spent 63.25 hours investigating the facility and preparing the Complaint, amounting to \$4,656.18 in staff costs.

Step 9. Maximum and Minimum Liability Amounts

Minimum Liability Amount: \$36,267.00

Maximum Liability Amount: \$785,000.00

The Enforcement Policy states that the total liability shall be at least 10 percent higher than the economic benefit, "so that liabilities are not construed as the cost of doing business and the assessed liability provides meaningful deterrent to future violations." The minimum liability amount here is \$36,267.00. This number is derived from the economic benefit which is calculated to be \$32,970.00, plus ten percent. The total base liability amount is more than the economic benefit plus 10 percent; therefore, the Enforcement Policy's requirement is met in this matter.

The maximum liability under Water Code section 13350 is \$5,000 per day of violation. The Discharger was discharging to the septic tank for approximately five months, resulting in 157 days of violation, a total maximum liability of \$785,000.00.

Step 10. Final Liability Amount

Based on the foregoing analysis, and consistent with the Enforcement Policy, the final liability amount for discharge of industrial wastewater to the OWTS is **\$334,356.18**.