NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Cyanco
5505 Cyanco Drive
Winnemucca, NV 89445

Permit Number: NEV89024

Location Cyanco Production Facility
Township 35N, Range 37E, Section 6
7 Miles Southwest of Winnemucca, Humboldt County, Nevada
Latitude 40º 56' 28" N
Longitude 117º 51" 43" W

Well Head Protection: The facility is not within a 2-, 5-, or 10-year well-head protection program capture zone. The facility is not within the 6,000-foot buffer zone for any public water supply well. The nearest public water supply well is more than 4 miles distant.

Corrective Actions Sites: There are no Bureau of Corrective Actions remediation sites located within a one-mile radius of the facility.

General: The applicant seeks renewal of permit #NEV89024, originally issued in February 1990. The applicant operates a sodium cyanide manufacturing plant that produces a liquid sodium cyanide product with a nominal concentration of 30-percent sodium cyanide. The process involves the reaction of oxygen (air), methane (natural gas) and ammonia at an elevated temperature (1050^{o} C). The reaction products, specifically hydrogen cyanide (HCN) gas are then sent to a scrubber where HCN gas is absorbed into a caustic soda solution as sodium cyanide. On-site above-ground tanks and rail cars store liquid ammonia, 50-percent caustic soda solution and the liquid sodium cyanide product. Any product that does not meet specifications is recycled. Storage tanks containing hazardous chemicals are contained within secondary containment with the capacity to contain 1½ times the contents of the largest tank should a spill occur. The containment area is constructed with leak detection that drains to a concrete sump that is periodically inspected for fluid accumulation. All fluid that incidentally enters containment or the sump is either evaporated within lined containment or is returned the process. Engineered containment basins are present where railcars of hazardous materials are loaded/offloaded and where trucks are loaded. The railcars are stored on a rail spur until they are offloaded. During offloading, they are positioned over an engineered containment sump that is plumbed to another sump. The sump level is monitored by the plant Distributed Control System (DCS) and alarms are established to alert plant personnel when levels increase during the offload procedure. There are also trip systems in place that will shut down the offload process when sump levels rise above alarm limits or if ammonia vapors are detected in the area surrounding an offloading railcar.

Receiving Water Characteristics: The facility is outside the 100-year flood plain and over one

mile from the Humboldt River. Depth to ground water at the site is approximately 61 feet. Water used in the process is pumped from two on-site wells, W-0000 and W-0010. Groundwater quality meets most primary drinking water standards for inorganic elements and compounds. Arsenic, at 0.031 mg/L, exceeds the USEPA primary drinking water standard of 0.01 mg/L.

Flow: No discharges are authorized by this permit. Stormwater is contained within the fenced process area and is disposed of by consuming it in the cyanide manufacturing process or evaporating it within the lined containment area.

Procedures for Public Comment: The Notice of the Division's intent to issue a permit authorizing the facility to operate, subject to the conditions contained within the permit, is being sent to the **Humboldt Sun** and the **Reno Gazette Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit may do so in writing for a period of 30 days following the date of the public notice. All comments regarding this permit must be received or postmarked by **5:00 PM on February 14, 2011.** The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: The Division has made the tentative determination to reissue the proposed permit for a 5-year period.

Proposed Effluent Limitations, Special Conditions, and Schedule of Compliance

Groundwater Monitoring:
The three monitoring wells, MW-1, MW-2 and MW-3, shall be monitored for the parameters listed in the table below.

Parameter	Permit Limit	Frequency	Sample Type
Depth to Groundwater (ft)	Monitor & Report	Quarterly	Discrete
Groundwater Elevation (ft AMSL)	Monitor & Report	Quarterly	Calculate
Ammonia as N (mg/L)	Monitor & Report	Quarterly	Discrete
Chloride (mg/L)	Monitor & Report	Quarterly	Discrete
Total Nitrogen (mg/L)	10.0	Quarterly	Discrete
pH (Standard Units)	Monitor & Report	Quarterly	Discrete
Sulfate (mg/L)	Monitor & Report	Quarterly	Discrete
TDS (mg/L)	Monitor & Report	Quarterly	Discrete
Total Cyanide (mg/L)	0.20	Quarterly	Discrete

The production water wells, W-0000 and W-0010, shall be monitored for the parameters listed in the table below.

Parameter	Permit Limit	Frequency	Sample Type
Ammonia as N (mg/L)	Monitor & Report	Quarterly	Discrete
Chloride (mg/L)	Monitor & Report	Quarterly	Discrete
Total Nitrogen (mg/L)	Monitor & Report	Quarterly	Discrete
pH (Standard Units)	Monitor & Report	Quarterly	Discrete
Sulfate (mg/L)	Monitor & Report	Quarterly	Discrete
TDS (mg/L)	Monitor & Report	Quarterly	Discrete
Total Cyanide (mg/L)	0.20	Quarterly	Discrete

Special Conditions: If cyanide is detected in any concentration in any of the monitoring samples the Bureau of Water Pollution Control shall be notified by the end of the first business day following the detection of cyanide. The reporting limit for cyanide shall be no higher than 0.1 mg/L.

Schedule of Compliance: The Permittee shall comply with the following items:

a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

b. The Permittee shall continue to implement measures to ensure current and future monitoring wells are not impacted by onsite crop and landscaping irrigation practices.

c. The Permittee shall submit a revised Operations & Maintenance (O&M) Manual to NDEP **on or before MonthDay, 2011,** that follows the requirements of NDEP Publication WTS-2 that outlines any changes to the treatment process or operation of the facility.

Rationale for Permit Requirements: The design of this facility meets the State's zero discharge standard of performance. No discharge of fluids or wastes is allowed at the facility. Storage tanks containing hazardous chemicals are contained within secondary containment with the capacity to contain 1½ times the contents of the largest tank should a spill occur. The containment area is constructed with leak detection that drains to a concrete sump that is periodically inspected for fluid accumulation. All fluid that incidentally enters containment or the sump is either evaporated within lined containment or is returned the process. Engineered containment basins are present where railcars of hazardous materials are loaded/offloaded and where trucks are loaded. The railcars are stored on a rail spur until they are offloaded. During offloading, they are positioned over an engineered containment sump that is plumbed to another sump. The sump level is monitored by the plant Distributed Control System (DCS) and alarms are established to alert plant personnel when levels increase during the offload procedure. There are also trip systems in place that will shut down the offload process when sump levels rise above alarm limits or if ammonia vapors are detected in the area surrounding an offloading railcar.

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Nevada Division of Environmental Protection
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