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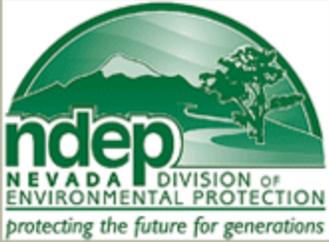
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## June 17, 2009 SEC Update

# NDEP Investigations & Actions regarding Odor complaints in Silver Springs

- ▶ Wood treatment process
- ▶ NDEP regulatory authority & compliance activities
- ▶ Odor complaints & concerns regarding toxic substances directed at Nevada Wood Preserving
- ▶ NDEP odor investigation
- ▶ Addressing potential sources of odor
- ▶ Conclusions & final thoughts – regulation of odors by other states

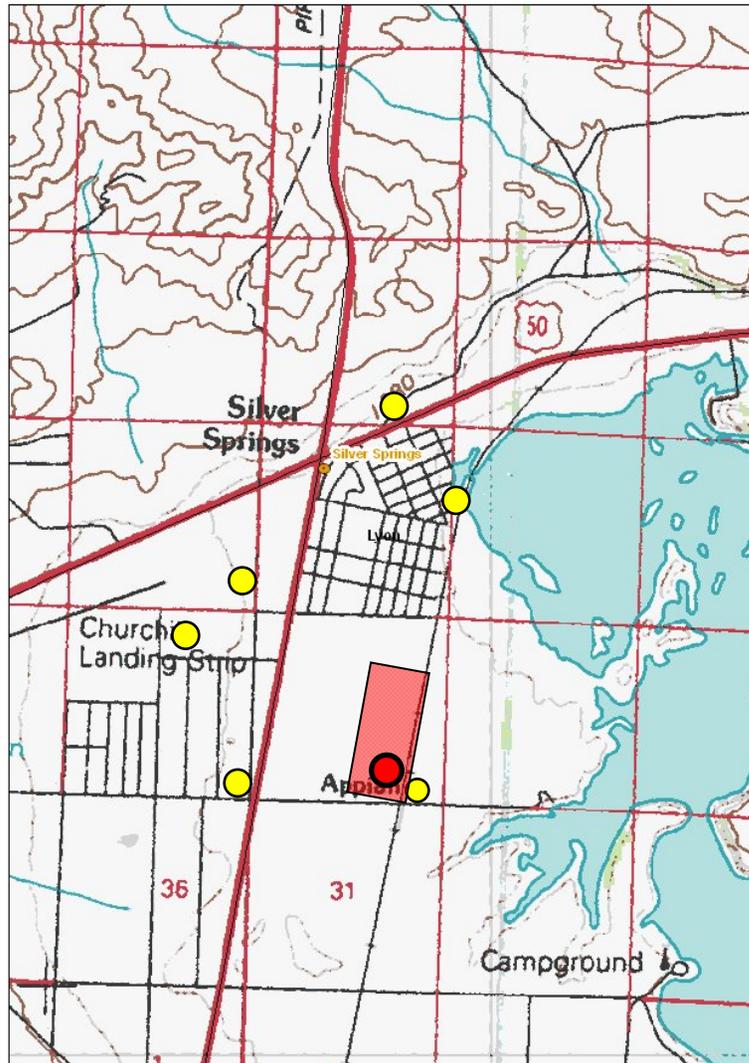


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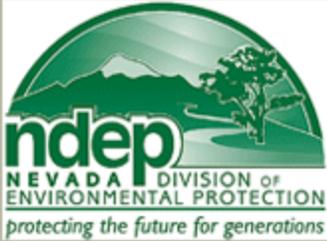
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# Industries in Silver Springs



- Nevada Wood Preserving
- other industries



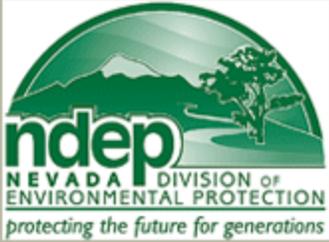
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# Wood Treatment Processes at Nevada Wood Preserving (NWP)

- ▶ “Boultonizing” process: water in wood is replaced by preservatives
- ▶ Done under vacuum in sealed cylinders
- ▶ Three different treatment formulas:
  - Chromated copper arsenate (CCA)
  - “Pac-Bore”, a borate compound
  - Pentachlorophenol (“Penta”), dissolved in diesel oil
- ▶ CCA and Penta are hazardous
- ▶ Following treatment, wooden poles or posts are stacked on concrete pads to dry



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# NWP treatment process



1. Time "zero"



2.



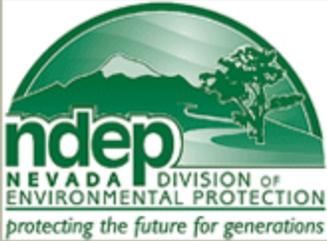
3.



4.



5. 15 minutes

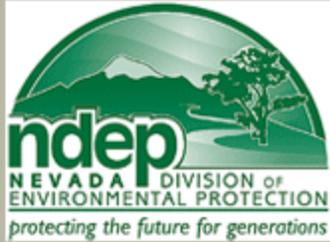


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# NDEP Regulatory Programs applicable to NWP

- ▶ Bureau of Waste Management
  - Hazardous waste (RCRA)
- ▶ Bureau of Air Pollution Control
  - Hazardous and other air pollutants
  - Fugitive dust, odors
- ▶ Bureau of Water Pollution Control
  - Groundwater monitoring
- ▶ Bureau of Corrective Actions
  - Spill investigation



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# NDEP Compliance & Enforcement

## Bureau of Waste Management

### RCRA Compliance Evaluation Inspections

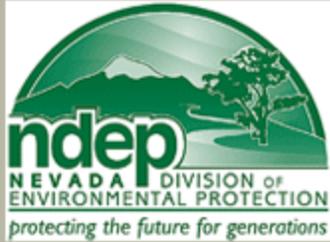
January 2002, January 2004, March 2006, March 2007  
& June 2008

### Focused Compliance Inspections

January 2002 - in response to a fire at facility  
June 2002 - complaint investigation  
August 2002 - complaint investigation  
December 2004 - Wastewater Treatment Unit Inspection

### Enforcement Actions

January 2002 - Informal (Contingency Plan Info)  
August 2002 – Formal (leaking tank)  
January 2004 - Formal (record keeping)  
March 2006 - Informal (container labeling, record keeping)  
March 2007 – Informal (container management)  
June 2008 - Informal (record keeping, waste determination)



# NDEP Compliance & Enforcement

## Bureau of Water Pollution Control

### Inspections

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January 2002 - in response to a fire at facility  
October 2004

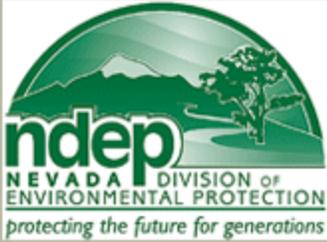
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September 2005: BWPC permit replaced with  
Administrative Order on Consent

- Addresses overlap of water (BWPC) & waste (BWM-RCRA) permit requirements
- Requires continued groundwater monitoring with associated concentration limitations

December 2008: monitoring well detects Penta in excess of allowed concentration

- Sample taken in February 2009 shows “no” Penta
- Investigation indicates that December results were related to contamination of a replacement pump, and were not representative of groundwater quality



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# NDEP Compliance & Enforcement

## Bureau of Air Pollution Control

### Full Compliance Inspections

March 2001, December 2005, August 2006,  
February 2007, May 2009

### Other Compliance Inspections

January 2006, November 2006\* (2), April 2008

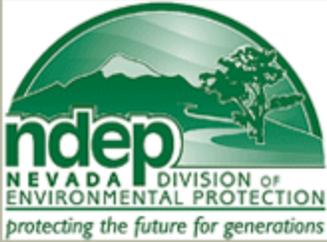
\*Joint inspection with NDEP Bureau of Corrective Actions

### Field investigations and Odor sampling

December 2006 (2), January 2007 – investigations  
June 2007, October 2007 – odor sampling

### Enforcement Actions

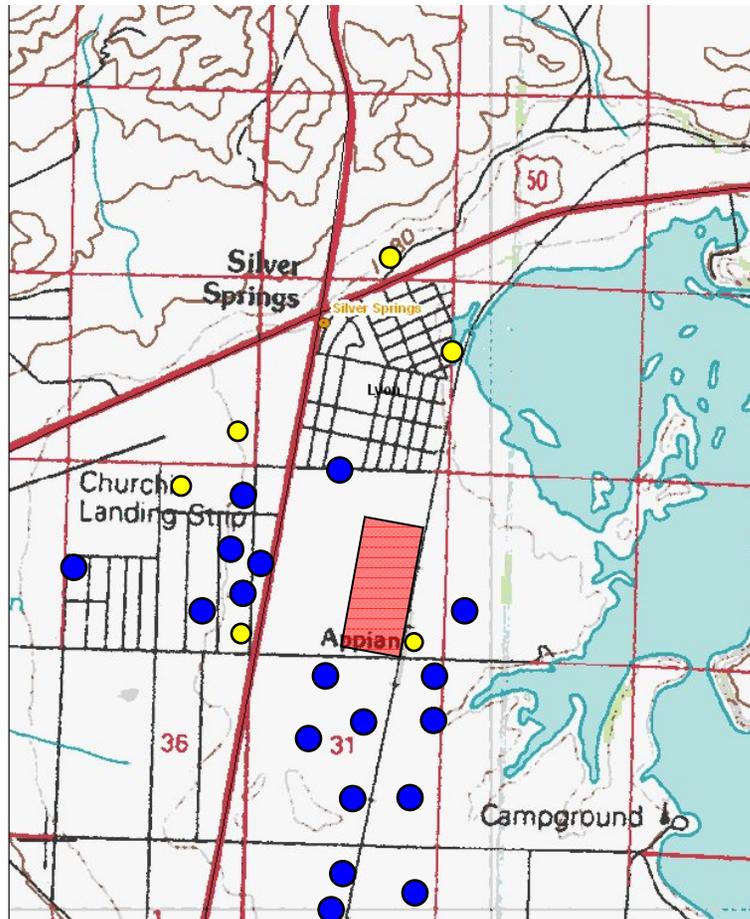
October 2004 - fugitive dust violation



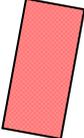
# Complaints in Silver Springs

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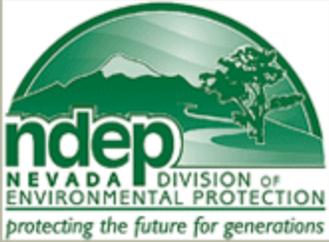
2006 - 2009

 Nevada Wood Preserving

 other facilities

 complainant locations

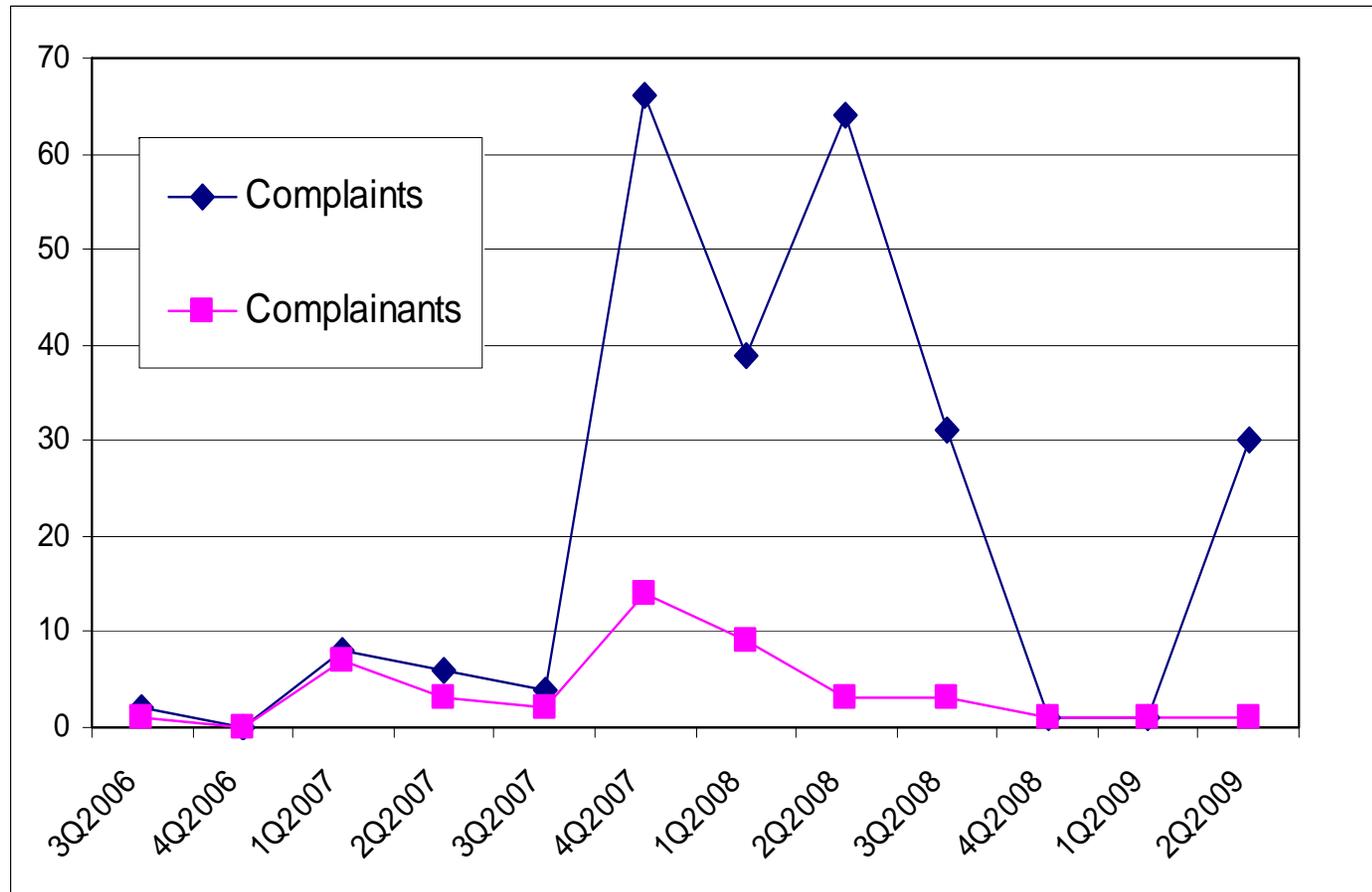
  
one mile

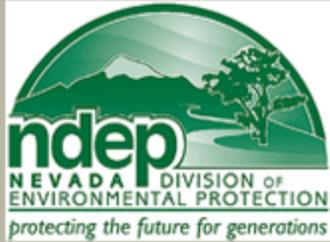


# Odor Complaints in Silver Springs

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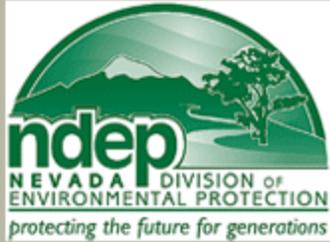
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## NAC 445B.22087 Odors

- ▶ Requires the NDEP to investigate an odor when at least 30% of the people exposed to it, in usual places of occupancy, find it objectionable
- ▶ Defines how violations are determined:
  - Odor is detectable after dilution by a factor of eight
  - Two odor measurements occurring within a one-hour period
- ▶ Odor violations constitute minor air quality violations



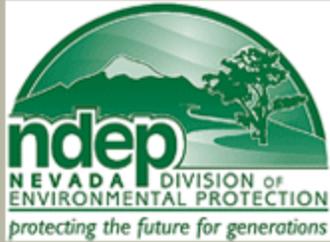
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# NDEP-BAPC Odor Investigation In Practice

- ▶ Investigate all complaints as they are received
- ▶ Identify potential sources
- ▶ Compile information
- ▶ Ensure that permitted sources are in compliance with their operating permits
- ▶ Seek and secure the cooperation of facilities to address possible sources of odors
- ▶ If warranted, conduct odor sampling using special sampling equipment



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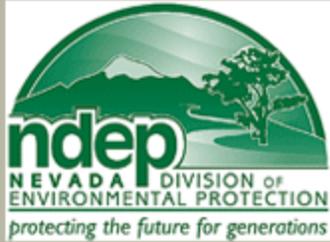
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# Odor Investigations in Silver Springs

## Bureau of Air Pollution Control

- ▶ Since August 2006, the NDEP-BAPC has undertaken the following activities:
  - Conducted 6 inspections of Nevada Wood Preserving
  - Responded to dozens of complaints through field investigations and data compilation
  - Provided information to complainants
  - Cooperated with and through Lyon County
  - In 2006, requested that Nevada Wood install “scrubbers” on process tanks and vacuum exhaust systems
  - In 2007, requested compliance confirmation from OSHA
  - In 2007, conducted odor sampling:
    - odors detected at the NWP fence line did not constitute violations under NAC 445B.22087
  - In 2008, re-examined NWP’s efforts at capturing fumes



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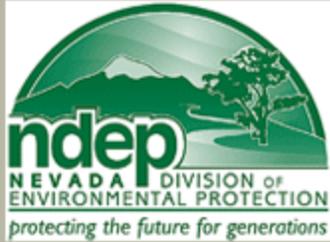
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# Odor Investigations in Silver Springs

## Bureau of Corrective Actions

- ▶ Since October 2007, the NDEP-BCA has done the following:
  - provided information to 5 complainants and responded to their complaints
  - Conducted two unannounced field inspections
  - Met twice with Lyon County officials
  - In April 2008, discussed the situation with Dr. Glenn Miller [University of Nevada, Reno]
  - In July 2008, discussed the results of Dr. Miller's air sampling study with Assemblyman Tom Grady, Lyon County and representatives of NWP

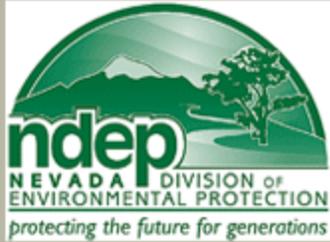


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## Information Presented to Lyon County

- ▶ November 2007: NDEP-BAPC reported “negative” results of the odor sampling it conducted in October
- ▶ March 2008 Meeting, Lyon County Commission
  - Citizens group (“Silver Springs Clean Air Task Force”) expresses concerns regarding Nevada Wood Preserving
  - Over 180 other residents of Silver Springs express support for the facility
  - Dr. Miller proposes to conduct an air sampling study to try to identify the possible source of the odors
- ▶ July 22, 2008 Meeting and follow-up
  - Dr. Miller summarized the results of his study:
    - Collected samples of ambient air at various locations
    - At 9 locations, detected one of the chemical compounds (butyl butyrate) that also occurs in the Penta formulation
    - Suggested use of an alternative Penta formulation
  - NWP reports that the suggested alternative has not yet been approved under industry certification

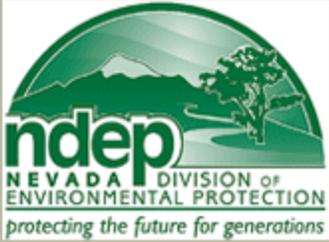


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# Actions taken by Nevada Wood

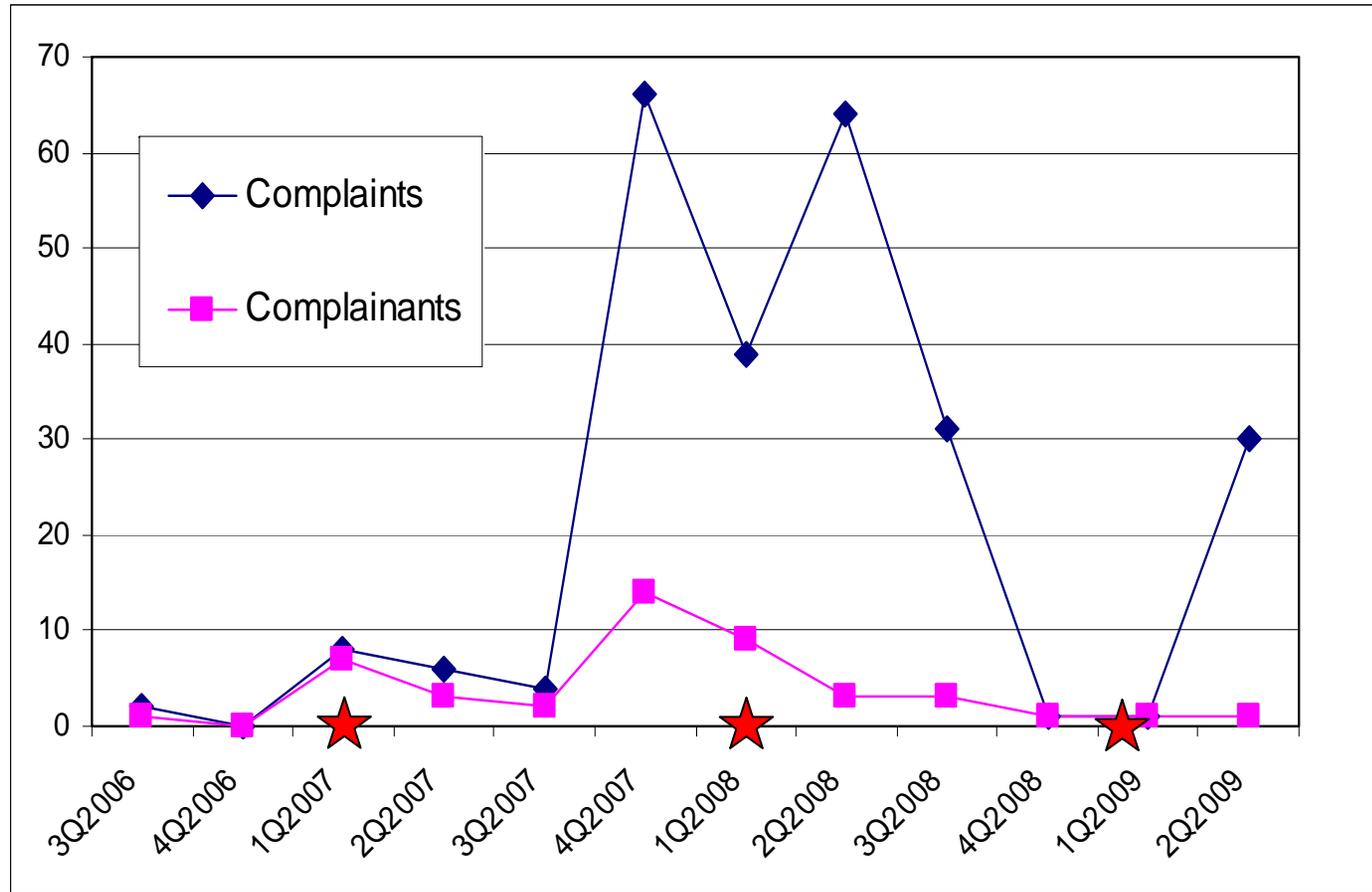
- ▶ November 2005 – began use of odor neutralizer
- ▶ August 2006 – special “P9” oil used in formulas no longer available, NWP began using low-sulfur diesel
- ▶ November 2006 – started “cracking” cylinder doors and pulling vacuum for 30 minutes prior to extracting products
- ▶ January 2007 – installed “scrubbers” on process tanks and vacuum exhaust systems
- ▶ August 2007 – installed a meteorological station for monitoring wind & weather conditions
- ▶ February 2008 – started exclusive use of “Penta” concentrate that uses low-odor solvent
- ▶ January 2009 – redirected fumes from the vacuum system into the hot oil tank



# Odor Complaints in Silver Springs

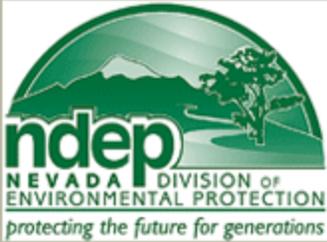
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★ - Action taken by Nevada Wood Preserving

# Conclusions

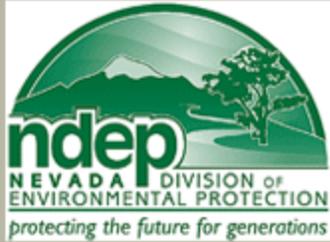


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- ▶ 14 NDEP inspections conducted since 2004 indicate that NWP is in compliance with its permit requirements – Emissions from NWP do not represent a threat to public health or the environment
- ▶ Odor sampling by the NDEP indicates that odors associated with processes at NWP do not constitute a violation under NAC 445B.22087
- ▶ The NDEP has been unable to definitively identify the source of the odor complaints in Silver Springs
- ▶ Dr. Miller’s study suggests that a very small amount of the “Penta” formulation used at NWP may be detectable offsite
- ▶ NWP has voluntarily taken successive measures to control emissions from its wood treatment processes
- ▶ The NDEP is sensitive to the concerns raised by residents, and will continue to monitor complaints and evaluate the need for other mitigation measures

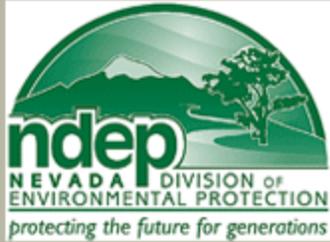
# Conclusions



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- ▶ Odors are difficult to assess
  - subjectively experienced
  - tend to be short-lived
  - sources are difficult to identify
  - are generally classified as nuisances
- ▶ Investigations of odor complaints demand substantial resources & local presence
- ▶ How do other states regulate odors?
  - Two other western states (Colorado, New Mexico) have regulations similar to Nevada's
  - Most states rely on local governments or air districts to enforce odor & other nuisance regulations
  - Many states have no specific odor regulations; Montana & Minnesota removed odor regs in 2001



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# NAC 445B.22087 Odors

## **NAC 445B.22087 Odors. (NRS 445B.210)**

1. No person may discharge or cause to be discharged, from any stationary source, any material or regulated air pollutant which is or tends to be offensive to the senses, injurious or detrimental to health and safety, or which in any way interferes with or prevents the comfortable enjoyment of life or property.
2. The Director shall investigate an odor when 30 percent or more of a sample of the people exposed to it believe it to be objectionable in usual places of occupancy. The sample must be at least 20 people or 75 percent of those exposed if fewer than 20 people are exposed.
3. The Director shall deem the odor to be a violation if he is able to make two odor measurements within a period of 1 hour. These measurements must be separated by at least 15 minutes. An odor measurement consists of a detectable odor after the odorous air has been diluted with eight or more volumes of odor-free air.

[Environmental Comm'n, Air Quality Reg. §§ 10.1.1-10.1.3, eff. 11-7-75]—(NAC A 10-30-95)—(Substituted in revision for NAC 445B.393)