

# **NEW “BURNBOT” TECHNOLOGY**

## **Precision Vegetation Management**

### **“Preventing Fire With Fire”**

**October 5, 2023**

**Ali R. Ghasemi, P.E.**

**Executive Officer**

**Ventura County APCD**

# BURNBOT TECHNOLOGY IN THE NEWS

<  San Francisco Chronicle AA 

## NEWS

### This is the robot that is scorching California's fire-prone landscape

**Jack Lee** July 21, 2023 | Updated: July 21, 2023 11:24 a.m.



Stephen Lam, The Chronicle

# BURNBOT TECHNOLOGY IN THE NEWS



PG&E Currents | 6.14.23



**PG&E Demos High Tech, Low Emission 'BurnBot' to Reduce Fire Risk and Help Ecosystems**

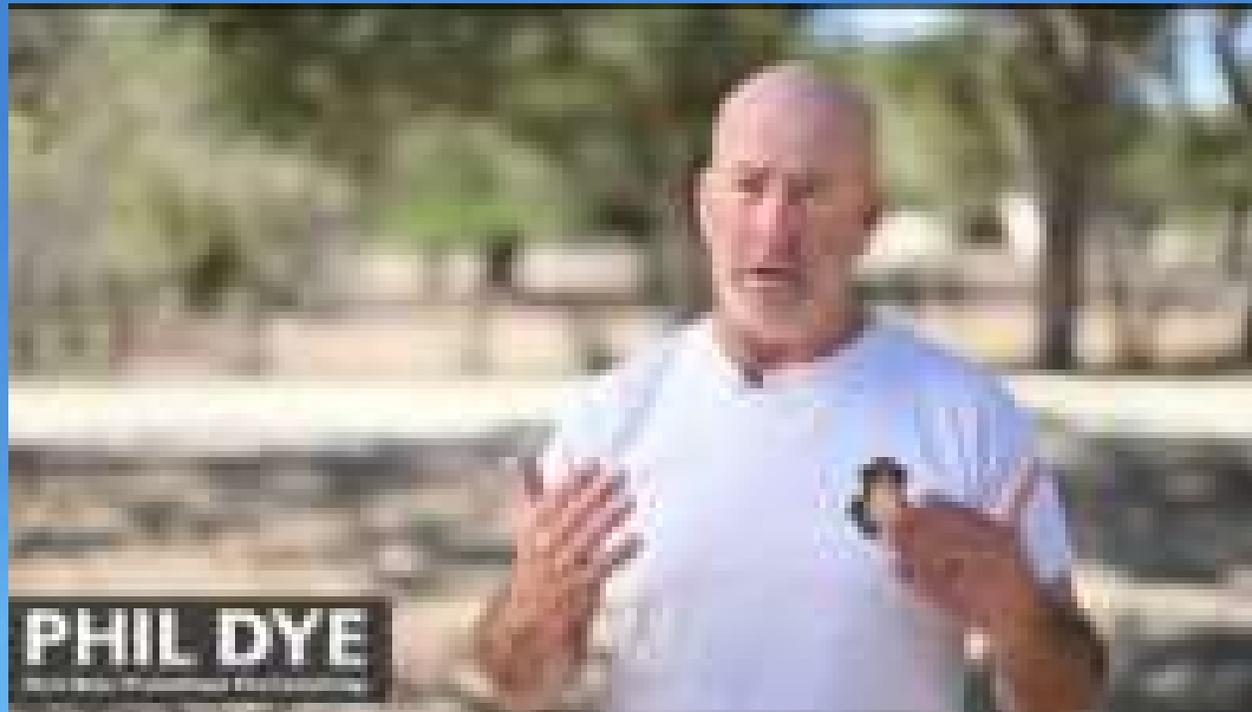
# BurnBot Specification

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- **Systematic Fuels Treatment**
- **Alternative To Prescribed Burns**
- **Prevent Destructive Wildfires**
- **Precise Controlled Burns At Scale**
- **Safely Burn Near Homes And Structures**
- **High Temperature Propane Torches**
- **Torches Within Enclosed Chamber**
- **Water Sprinklers To Extinguish Flames**
- **Chamber Equipped With Suction Fans**
- **Smoke Free Emission Control Technology**

[WWW.BURNBOT.COM](http://WWW.BURNBOT.COM)

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# BURNBOT RX1 PROTOTYPE

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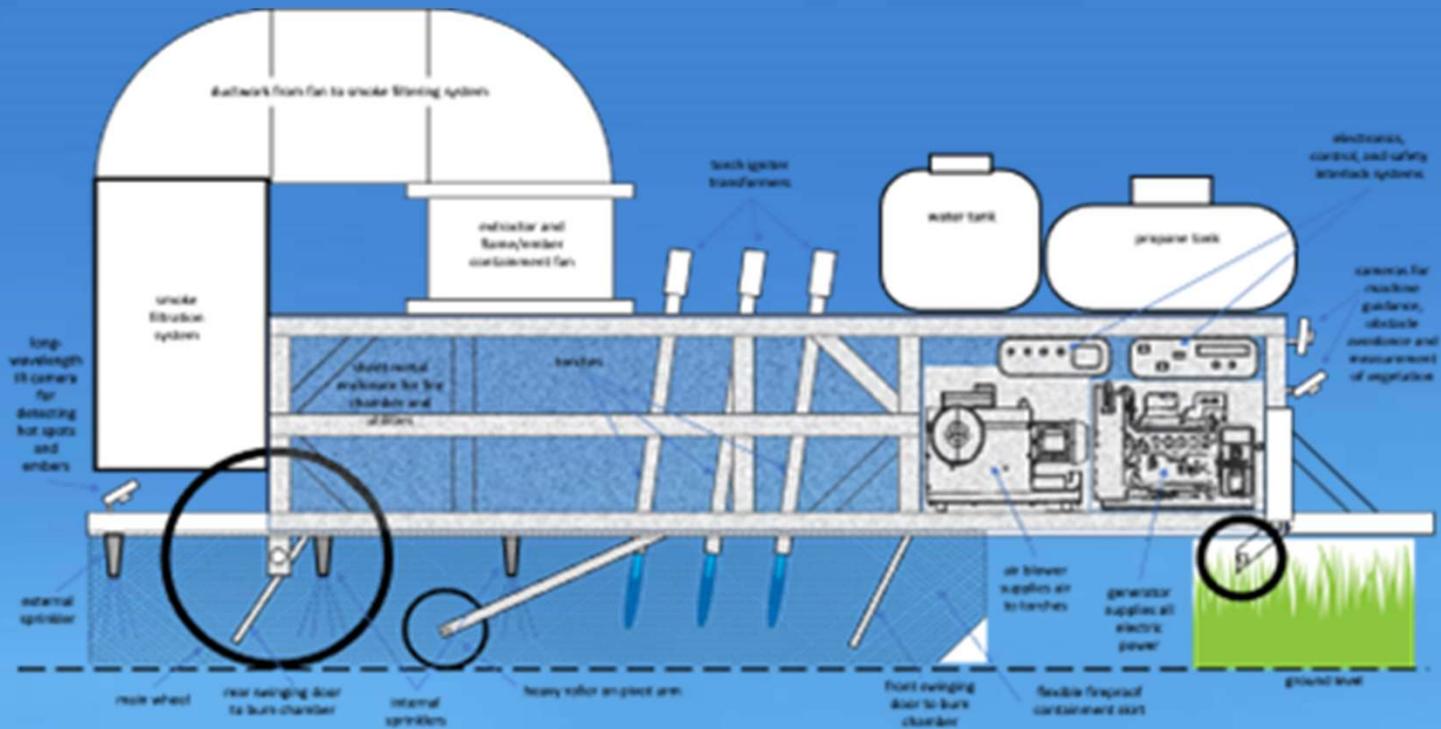


# BURNBOT RX1 PROTOTYPE

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- **RX1 Towed By Remote Controlled Tractor**
- **Drones For Surveillance And Direction**
- **Remote Controlled Masticators Pre-Treatment**
- **Propane Torches Adjust – Fuel Type/Moisture**
- **Electric Generators For Power**
- **Propane Tanks And Water Tanks For Sprinklers**
- **Suction Chamber Contains Flame, Smoke, Embers**
- **Smoke Is Burnt Then Sent To Multi-Stage Filters**
- **Heavy Rear Roller Tamps Down Remaining Flame**
- **Cameras For Guidance / Hot Spot Detection**

# BurnBot



# VCAPCD PERMIT DETERMINATION

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- **Permit is Required For Open Burning Issued by VC Fire & APCD- Not NSR permit**
- **Permit Not Required For Controls, For Exempt Equipment And Processes**
- **Permit Required  $\geq 1$  MMBTU/Hr Combustion**
- **Permit Required  $\geq 50$  BHP Engines (PERP?)**
- **EPA: NOT Subject 40 CFR Part 60 Subpart EEEE**
- **NSPS - Other Solid Waste Incineration Units**
- **EPA Title V (Part 70) Permit NOT Required**

# AIR CURTAIN INCINERATOR (ACI)

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# AIR CURTAIN INCINERATOR

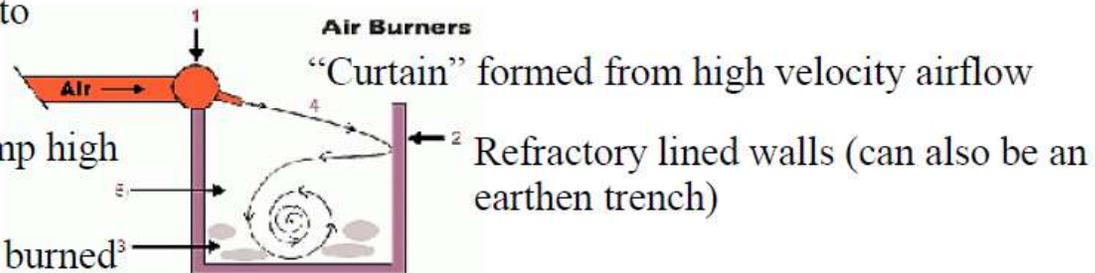
- Used To Clear / Burn Dead Trees In Forests
- Large Insulated “Box” Contains Wood Fire
- Diesel Engine-Powered Fan
- Fans Blows Curtain Of Air Over Top Of Box
- Alternative To Traditional Open Burning
- ACI Burns More Efficiently With Less Smoke

## How the Incinerator Works

High velocity air is directed into the box

Continued airflow keeps fire temp high for more complete combustion

Material to be burned<sup>3</sup>



# ACI PERMIT DETERMINATION

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- **Tri-County Advisory Dated August 12, 2016**
- **Air District NSR Permit Not Required For Open Burning And Associated Emission Control**
- **ACI Not Subject To NSR Permitting**
- **PERP Required For  $\geq$  50 BHP Engines**
- **EPA: IS Subject 40 CFR Part 60 Subpart EEEE**
- **NSPS - Other Solid Waste Incineration Units**
- **EPA Title V (Part 70) Permit IS Required**
- **Plan To Issue 3-County Title V “General” Permit**
- **NSPS Has Emergency Exemptions / EPA Approval**

**Thank you!**

**Any Questions?**