

# Mohave Final Oral Argument

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Representing Black Mesa Trust and  
To’Nizhoni Ani

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# 1.0 What We Don't Know

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- We don't know the basic economics on Mohave:
- 1.1 Fuel: we don't have an assured supply of coal (no permanent mine permit) or know its cost,
- 1.2 Water: we don't know if we have water for the slurry line, or its price.

# 2.0 What We Do Know

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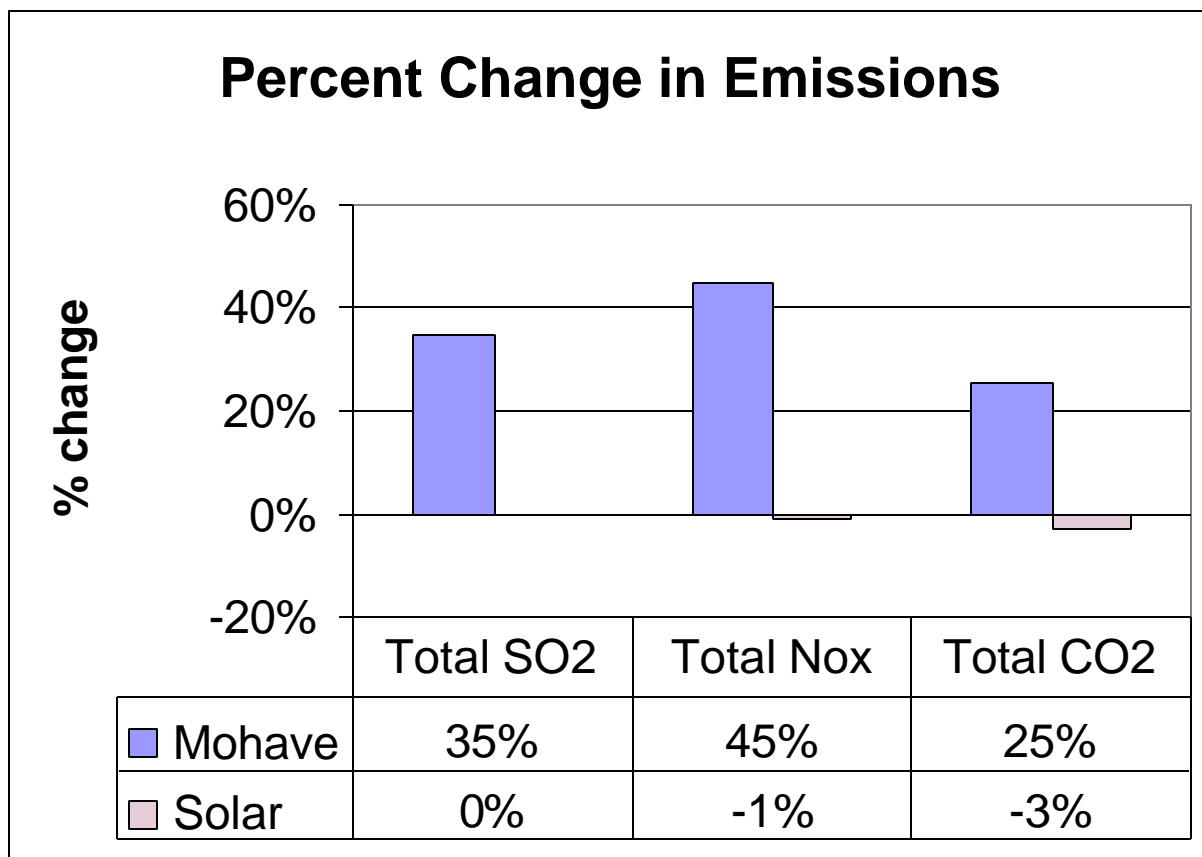
- **2.1 Mohave could never be built - or rebuilt - in California**
- **2.2 Mohave is a tremendous waster of water ~ 25 thousand acre-ft/ year for cooling. Others cleaning up their act - PNM San Juan coal-fired plant converting to dry cooling/reclaimed water**
- **2.3 Mohave single largest pollution source regulated by CPUC**
- **2.4 Navajo & Hopi Tribes have lawsuit asking for approximate doubling in royalty payments**
- **2.5 Mohave a short lived option -2026 end of cooling water, 2026 end of proposed coal lease**
- **2.6 The springs, seeps and wells on Black Mesa are going dry**



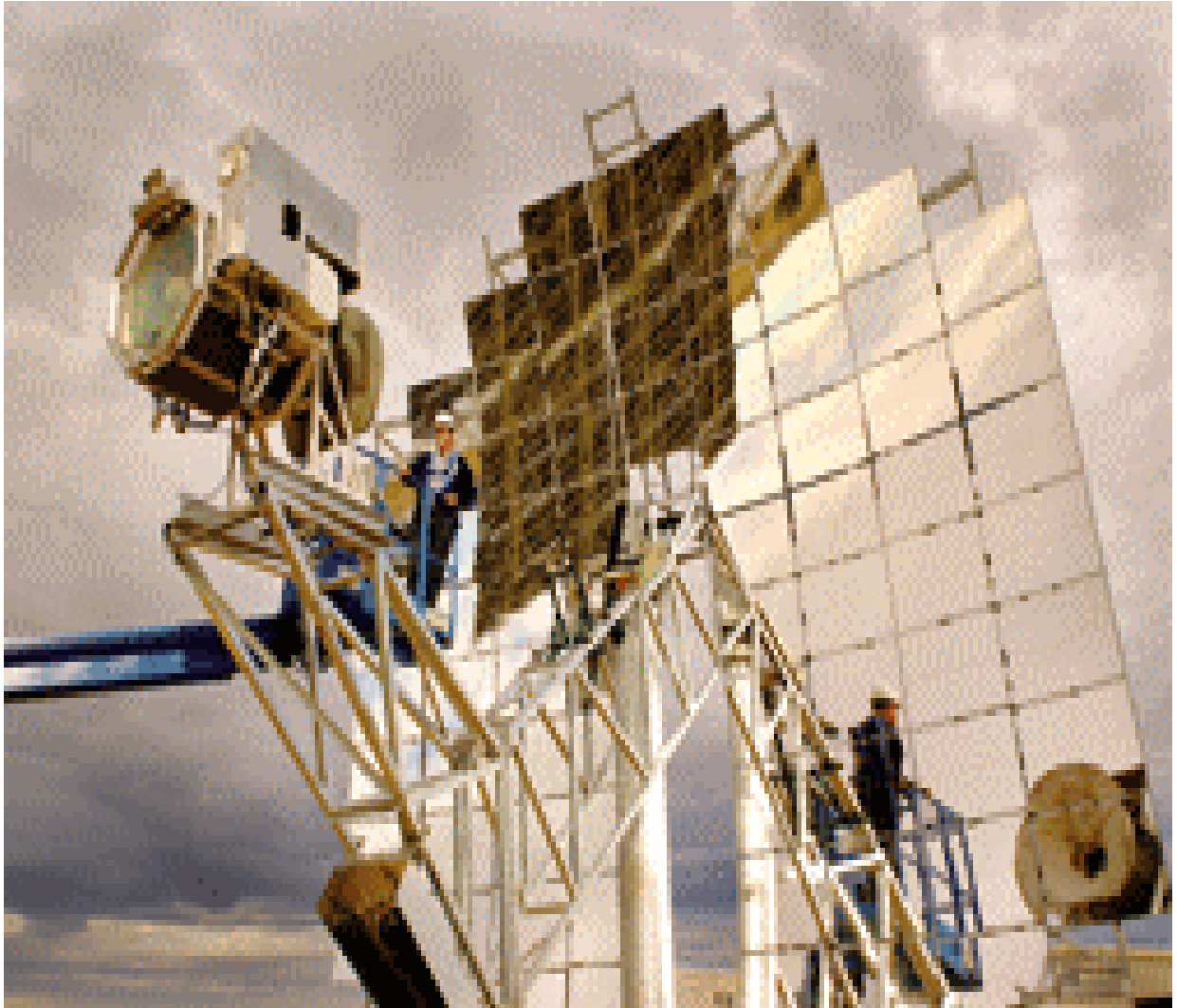
# Mohave Emissions

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% change in total Edison generation emissions

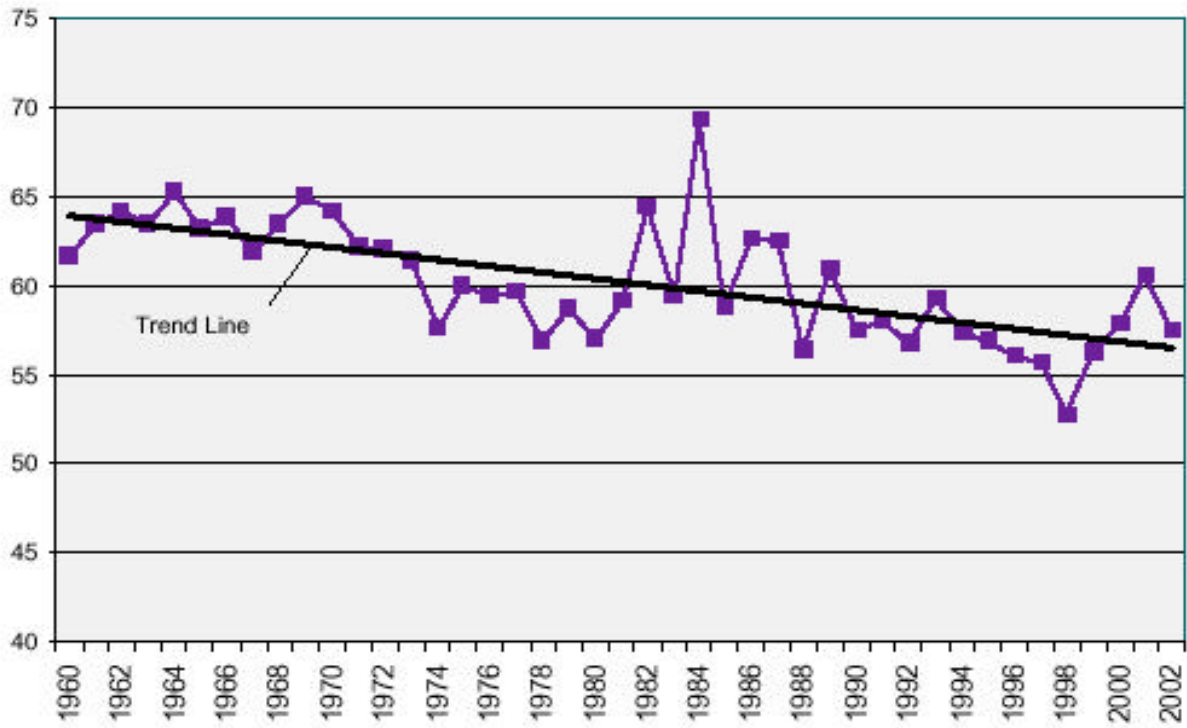


# 3.0 Solar Alternative pg 5

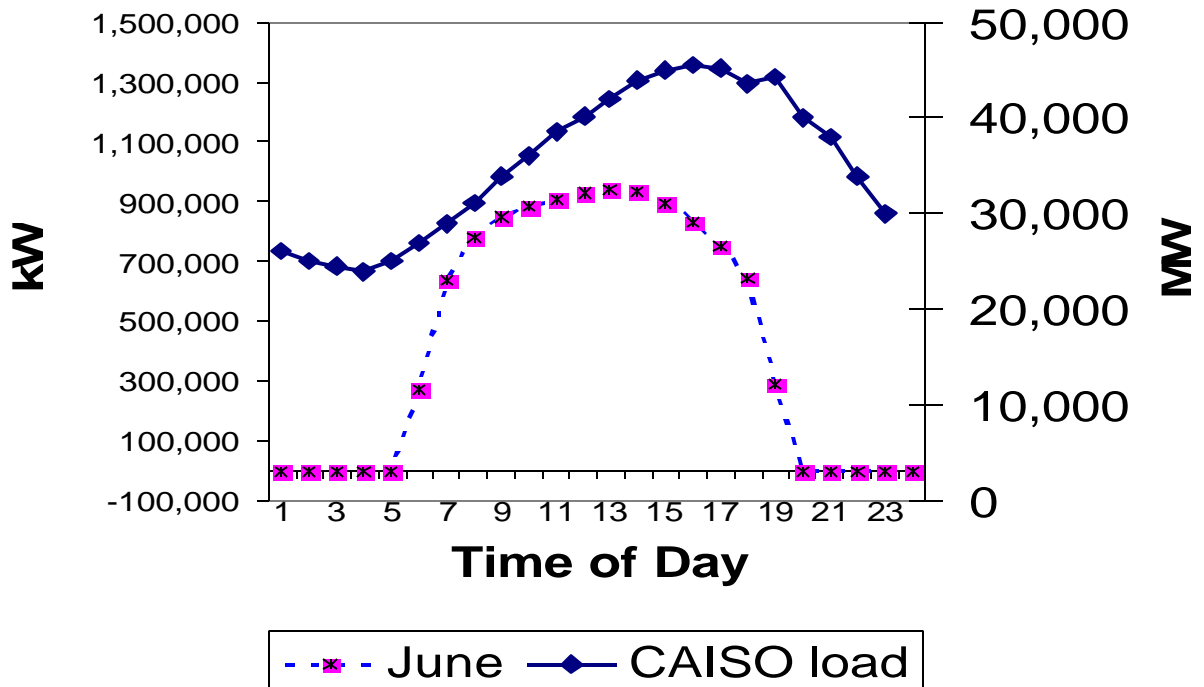


- **3.1** 1,000 MW solar dish array on Black Mesa
- **3.2** 6-7 cents/kWh includes \$16 million per year royalty payments to tribes
- **3.3** Solar option is non polluting, cost effective, sustainable, matches California peaking needs and policy directives

### California Annual Load Factors (%)



### 1,000 MW Solar Dish Generation and CAISO Load - Summer



**Table 2. Comparison of Mohave Refurbishment and Stirling Energy Systems Solar Power Purchase Agreement Options**

	<u>Mohave Refurbishment</u>	<u>SES Solar PPA</u>	<u>Contracts Required Between</u>	<u>Uncertainties</u>
<b><u>Fuel</u></b>	coal	solar	Navajos, Hopis, Peabody, Black Mesa pipeline, Mohave Owners OSM approval	litigation of coal leases new haulage road needed new coal royalty 2007 new life of mine permit
quantity/quality	uncertain	n/a		
price	uncertain	free		
Need new Fed mining permit/ EIS	no	no		
<b><u>Facilities Required</u></b>				
<b><u>New Coal Washing Facility</u></b>			Navajos, Peabody.	
permitted	no	na	EIS required	Env. Impact, permitting Unknown cost
built	no	na		
<b><u>Replacement Coal Slurry Pipeline</u></b>			Black Mesa Pipeline, Mohave Owners	Mohave owners will have to contract with Pipeline.
required	yes	na		
built	yes	na	cost ~ \$200 million	2020 pipeline easements end.
<b><u>New Wellfield</u></b>				
needed	yes	no	Navajos, Hopis, Peabody	backup water supply Env. Impact, permitting, quality, quantity water royalty rates
proven/developed	no	na		
cost of water	unknown	na		
<b><u>New Water Pipeline</u></b>			Navajos, Hopis, Peabody,	who will construct, own, operate and maintain, fees.
required	yes	na	Pipeline	DOI est. 7 year permitting
necessary permits?	no	na	need EIS	upsizing pipeline, water litigation
built	no	na	cost ~ \$200 million	
<b><u>New Transmission Line</u></b>				
required	no	yes	Navajo Transmission Project, solar owners, Edison	Transmission contract, PPA for electricity between owners/Edison, royalty if Hopi/Navajo not owners
built	n/a	no		
<b><u>Water Consumption</u></b>	~25,000 acre-ft/year	~118 acre-ft/year	assuming 1,000 MW solar facility	2026 cooling water for Mohave ends
<b><u>Tribes</u></b>				
royalties	yes	yes	Navajos need to install 1,000 MW of solar	to duplicate current coal royalties
<b><u>Jobs</u></b>				
@Mohave	current levels	maybe	if SES Harper Lake proposal approved	~ 700 jobs for 2 years.
on Reservation	current levels	varies	1,500 jobs for 2 years installation, 75 ongoing jobs,	unspecified manufacturing jobs if manufacturing on reservation
<b><u>Investment</u></b>	\$1.2 billion from California ratepayers	\$0 from California ratepayers	Assuming solar Power Purchase Agreement	significant investment risk for Mohave, none for solar PPA
<b><u>Technology</u></b>				
demonstrated	yes	yes		
mass produced	no	yes		
<b><u>Risks</u></b>				
Env. Risk	yes	no		+ \$5 M per year HG costs after 2018, unknown carbon costs
<b><u>Life of Plant</u></b>	7-15 years. 2012 before all DOI permits/approvals done, pipeline easements end 2020, cooling water ends 2025.	30 years	Mohave runs out of cooling water in 2026. Can't start operating until all DOI permits approved. Solar should last 30 years.	

# Conclusion

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- We have a responsibility to leave this world a better place. We can enter the 21st century with either:



## **a 1960's technology that:**

- is the single largest polluter regulated by this Commission, subject to unknown future emissions regulations;
- a terrible waster of water in this arid region which is experiencing increasing water conflicts;
- needs thousands of acres stripmined annually;
  - has an uncertain fuel supply and cost;
  - has a short expected life (15-16 years).



## or a 21st century generation technology that:

- is renewable;
- provides cost effective peaking generation;
- meets California generation needs and energy policy directives;
- provides royalty replacement and jobs for tribes on the mesa;
  - has an expected 30 year+ life.



# References

- Cover, page 1
- Section 1.0, page 2
  - WEC Opening Brief, August 9, 2004 and WEC Reply Brief, August 24, 2004.
- Section 2.0, page 3
  - WEC Opening Brief, August 9, 2004 and WEC Reply Brief, August 24, 2004.
  - Exhibit 86 - WEC Supplemental Testimony, October 10, 2003.
  - Exhibit 88 - WEC Supplemental Testimony, May 14, 2004.
  - Exhibit 83 -WEC, Hopi, Dine Testimony, March 26, 2003.
  - page 4
  - Exhibit 89 - WEC Rebuttal Testimony, June 4, 2004 .
- Section 3.0, page 5
  - Exhibit 86 - WEC Supplemental Testimony, October 10, 2003.
  - page 6
  - Exhibit 88 - WEC Supplemental Testimony, May 14, 2004.
  - page 7
  - Exhibit 89 - WEC Rebuttal Testimony, June 4, 2004,
- Conclusion, pages 8, 9, 10