

Welcome

Public Information Meeting

Draft Environmental Impact Report, Comprehensive Groundwater Chromium Cleanup Project

Hosted by Lahontan Water Board staff

6 to 8 pm

Agenda:

- Introductions, Ground Rules, Timeline
- Staff presentation on Draft EIR
- Question & answer session



Public Review Draft Environmental Impact Report

Comprehensive Cleanup Strategy for
Chromium in Groundwater,
PG&E's Hinkley Compressor Station



Anne Holden
Engineering Geologist
Lahontan Water Board
August 29, 2012

What is an Environmental Impact Report?

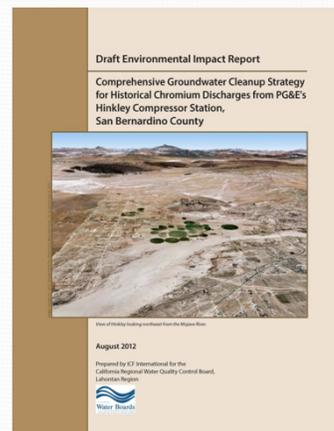
- A report to help public and decision-makers understand environmental impacts of project
- Required by California Environmental Quality Act (CEQA)
- Lead public agency must write EIR when impacts from a project could be “significant” (environmentally damaging)
- Describes ways to do project to reduce or avoid negative impacts (alternatives and mitigation measures)
- Discloses if negative impacts can’t be avoided or reduced, and evaluates if/why project should still be approved



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Draft EIR

- Prepared by Water Board staff and consultant for Hinkley groundwater cleanup
 - 60-day review and comment period - **August 21 through October 19**
- Cleanup activities will be over a larger area, longer time period than before
- Water Board will issue new site-wide General Permit and Cleanup Order to PG&E



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What is the Project?

- Comprehensive remediation plan to clean up chromium-contaminated groundwater in Hinkley area
- Impacts from *existing chromium contamination* are not analyzed (not part of project)



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What is the Cleanup Project Goal?

- Cleaning up chromium-contaminated groundwater in the Hinkley area to background levels.
- Goal is to clean up quickly as possible, balancing speed of cleanup with impacts.



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Cleanup Technologies in EIR

Groundwater extraction & agricultural units (AUs)

- Plume containment
- Use extracted groundwater for forage crops
- Cr6 changes to Cr3 in soil and root zone

In-situ treatment

- Inject carbon source (e.g., ethanol) into aquifer
- Changes (“reduces”) Cr6 to Cr3
- Cr3 remains as solid in soil

Above-ground (ex-situ) treatment

- Extracted water run through treatment plant to filter Cr out
- Removes all forms of Cr from aquifer
- Off-site disposal of Cr, treated water can be re-injected

Freshwater injection

- Creates subsurface (in aquifer) barriers of fresh water to direct Cr plume in different direction

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EIR Alternatives

“No Project”

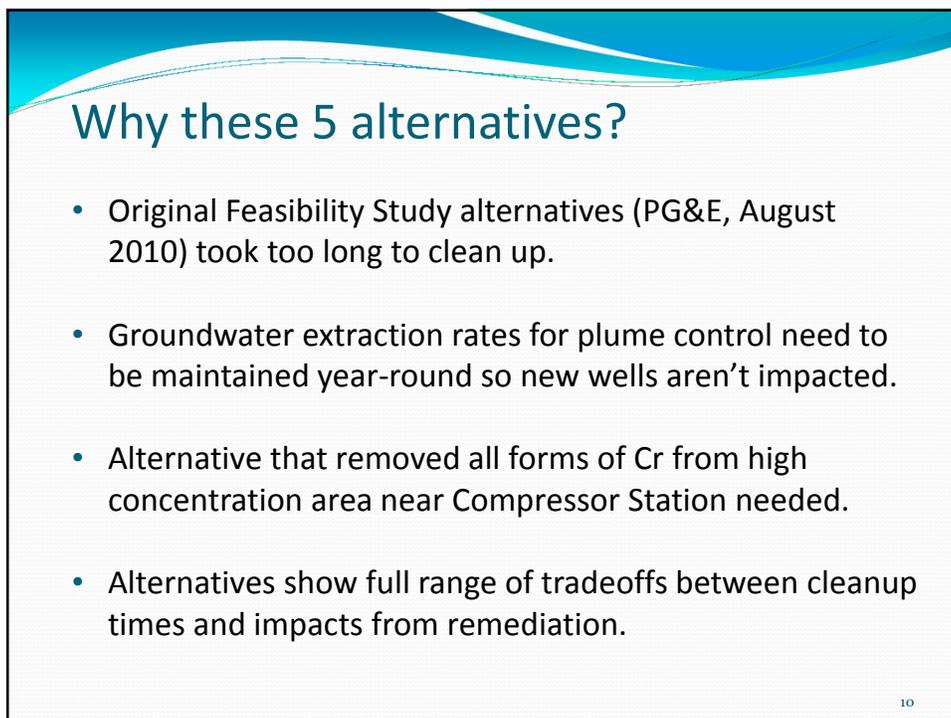
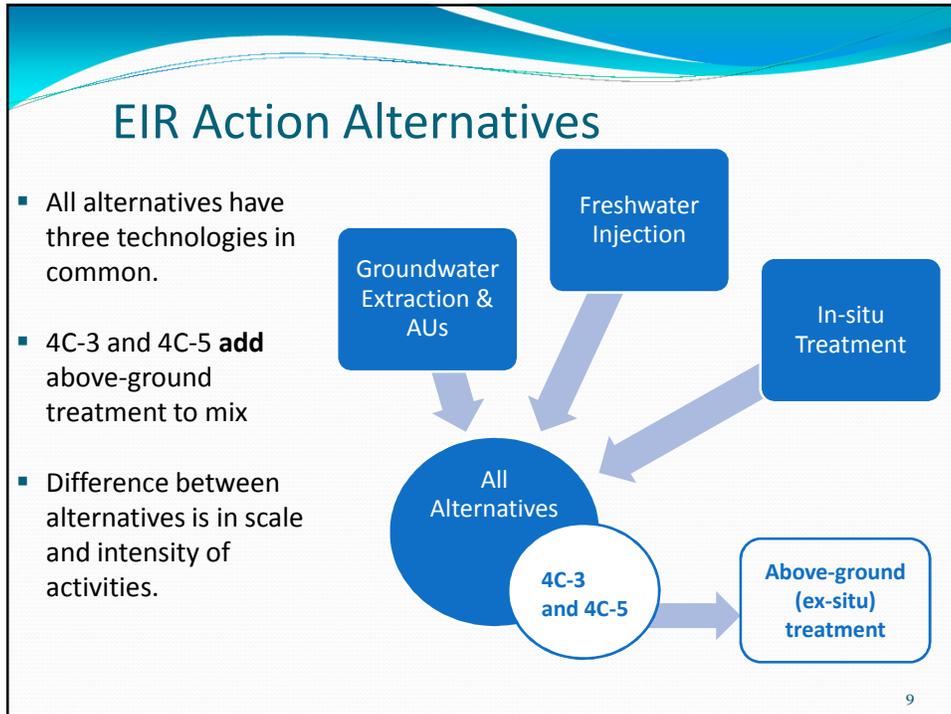
- No new permit from Water Board, continue current remediation
- Doesn’t address full plume
- Required by CEQA for comparison purposes

Five “Action” Alternatives

- 4B and 4C-2, 4C-3, 4C-4, 4C-5
- Developed in 2011-2012, based on public and Water Board input
- All use various combinations/intensities of the four cleanup technologies



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Why no “preferred alternative”?

- EIR looks at all alternatives in full detail, rather than just one
- Gives maximum flexibility to use all methods in EIR
- Water Board can direct speed of cleanup, limits on impacts, in upcoming Cleanup Order
- Public input on balance between cleanup time and acceptable impacts will be key

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Resources Evaluated in the EIR

- Water Supply
- Water Quality
- Land Use, Population, Housing
- Hazards
- Geology and Soils
- Air Quality and Climate Change
- Noise
- Biological Resources
- Cultural Resources
- Utilities and Public Services
- Traffic
- Aesthetics
- Socioeconomics
- Cumulative and Growth-Inducing Impacts

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Water Resource Impacts

Water Supply and **Water Quality** impacts considered in two ways:

- 1) Impacts affecting supply well users
- 2) Impacts to the aquifer itself
 - ✓ Even if groundwater is not supplying a well, it's still affected if impacts due to remediation occur

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Key Environmental Impacts

Water Supply:

- Drawdown - aggressive groundwater extraction to contain and clean up plume lowers groundwater levels
- Compaction - loss of aquifer water storage capacity due to groundwater drawdown

Water Quality:

- Increased TDS - irrigated AUs increase TDS, possibly affect uranium.
 - Data on uranium limited, but impact considered potentially significant

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Key Environmental Impacts

Water Quality:

- Byproduct formation - increased in-situ treatment increases manganese, arsenic, iron in groundwater
- Cr plume “bulge” – injection or irrigation causes temporary bulge during remediation

Biological Resources:

- Loss of habitat – due to more AUs, treatment facilities
- Restricted tortoise movement - AUs may limit desert tortoise movement through valley
- Loss of wildlife - could be disturbed, killed during construction/operation

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Cleanup Times versus Relative Impact Rankings* for EIR Alternatives

EIR Alternative	No Project	4B	4C-2	4C-3	4C-4	4C-5
Cleanup Time Rankings 1 = fastest 6 = slowest	6	4	3	2	1	5
Key Impact Rankings * 1 = lowest among alternatives 6 = highest among alternatives						
Groundwater Drawdown	1	2	4	5	6	3
Aquifer Compaction	1	2	4	5	6	3
Cr Plume Bulge	1	2	3	5	5	3
TDS/Uranium byproducts**	1	2	3	5	6	3
Mn, As, Fe byproducts**	1	4	4	3	4	2
Wildlife or habitat loss	1	2	3	5	6	4
Average of Key Impact Rankings 1 = lowest among alternatives 6 = highest among alternatives	1	2	4	5	6	3

* Relative, not absolute rankings. Selected water and biological impacts only.

** Cr = Chromium; TDS = Total dissolved solids; Mn = Manganese; As = Arsenic; Fe = Iron.



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Differences in Alternatives Driving Impact Rankings

	Alternative 4C-4	Alternative 4C-5
Cleanup time ranking	Fastest action alternative	Slowest action alternative
Agricultural units (acres)	1,394	575
Groundwater extraction rate for AUs (gpm, annual average)	4,388	3,167
Above-ground (ex-situ) treatment?	No	Yes

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Mitigation Measures

Water Supply (Drawdown):

- **Supply wells** - Provide alternate water for supply wells affected by localized drawdown due to remediation
- **Aquifer** - Purchase water rights to avoid regional drawdown, exceedance of basin-wide water withdrawal limits set by Mojave Water Agency



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Mitigation Measures

Water Supply (Aquifer Compaction):

- **Supply wells** - Provide alternate water for supply wells affected by localized compaction due to remediation
- **Aquifer** - Permanent impact to aquifer (in places) could be unavoidable
 - Analysis shows low chance of compaction - historic drawdown levels (>90'), coarse-grained aquifer materials
 - North of Thompson Road more potential to occur
 - Area not subject to historic drawdown; more clay in aquifer

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Mitigation Measures

Water Quality:

- **Supply wells** - Avoid impacts through monitoring & preventive measures (changes in pumping, injection rates)
- If can't avoid, provide alternate water supply to wells temporarily affected by remediation (Cr plume "bulge"; byproducts)
- **Aquifer** - will be temporarily impacted, but water quality restoration required after project

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Mitigation Measures

Biological Resources:

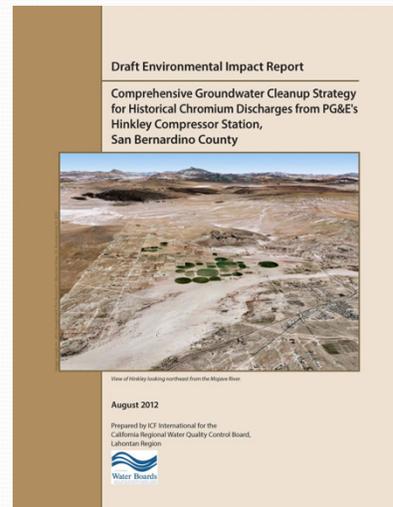
- Clearance surveys, training, relocation protocols to limit impacts to wildlife
- Set aside habitat to compensate for loss
- **Tortoise movement** may be restricted by AUs, difficult to mitigate this
- May be significant and unavoidable impact depending on number and layout of AUs



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Reviewing the EIR

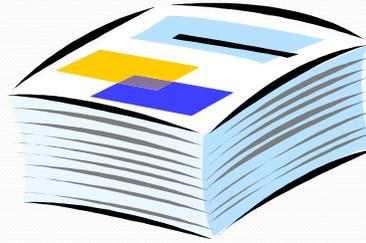
Some helpful hints . . .



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Useful EIR Sections

- Executive Summary
- Impact & mitigation summary tables, beginning of all sections in Chapter 3
- Table 3.1-2 (starts p. 3.1-5), compares water resource impacts & alternatives
- Chapter 4 sections:
 - **Section 4.6.3**- *Comparison of Environmental Impacts of the Project Alternatives*
 - **Section 4.6.4** – *Evaluation of Project Alternatives*
 - **Section 4.6.5** – *Identifying the Environmentally Superior Alternative*



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When reading, consider . . .

- Did we describe the impacts fully?
 - ✓ *If not, what did we miss?*
- Other mitigation measures available?
 - ✓ *Describe what those are.*
- Do you have an opinion on length of cleanup versus impacts?
 - ✓ *Let us know what's most important to you.*
 - ✓ *What impacts are acceptable for faster cleanup?*



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How to provide comments

- Write comments on cards provided tonight
- Fill out questionnaire (coming up) – now or take home
- Send an email, fax or mail letter with your comments
 - ✓ Contact info provided on Fact Sheet Handout, Lahontan Water Board website, Notice of Availability mailed out
- Attend September 12, 2012 Water Board meeting in Barstow, and speak to our Board members.

*Please provide your comments by **October 19, 2012***

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Handouts to Take Home

- ✓ CDs of the draft EIR
- ✓ Executive Summary*
- ✓ Fact Sheet, with info on EIR comment submittal and Water Board staff contacts*
- ✓ Impacts Questionnaire*
- ✓ Key Water Resource Impacts and Mitigation Measures*
- ✓ Cleanup Times versus Impacts for EIR Alternatives*
- ✓ EIR Schedule for 2012 and 2013 – Upcoming review periods and meetings*

*available in Spanish and English

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Important Upcoming Events

(see handout for more detailed schedule)

Sept 12, 2012 Water Board public meeting in Barstow to review draft EIR	Mid October Water Board staff hold information meeting to review draft General Permit	October 19, 2012 Draft EIR review and comment period ends	December 2012 Water Board staff hold information meeting to review final EIR	January 2013 Water Board formal meeting to adopt EIR, permit, discuss CAO
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Questionnaire Handout

Discussion Session

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Send comments by **October 19** to:

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South Lake Tahoe, CA 96150

- Email: aholden@waterboards.ca.gov
- Fax: 530-544-2271

More project information:

<http://www.waterboards.ca.gov/lahontan/>

*Contact info is on **EIR Fact Sheet**, available at this meeting*

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