



**Richmond Refinery
Modernization Project Update**



May 28, 2015



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Modernization Project Objectives



1. Modernize and enhance facility reliability by replacing some of the refinery's oldest processing equipment with newer, cleaner, and inherently safer equipment and technologies.
2. Allow the Facility to process crude oil blends and externally sourced gas oils containing higher levels of sulfur.
3. Ensure that there is no net increase in emissions of greenhouse gases, criteria pollutants or health risks associated with toxic air contaminants.
4. Maintain the Facility's current throughput processing capacity.
5. **Does not enable crude by rail or a switch to processing heavy crudes.**

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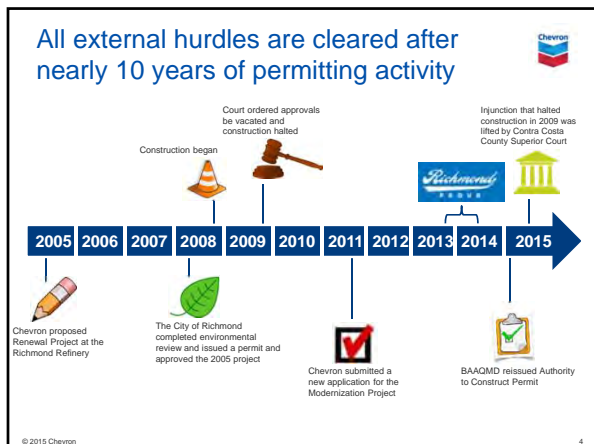
**Richmond Refinery Modernization
Project Overview**



NEW HYDROGEN PLANT
The refinery will install a new hydrogen plant to produce hydrogen gas for sulfur recovery units.

SULFUR REMOVAL IMPROVEMENTS
The refinery will install a new sulfur recovery unit to produce sulfur for sale.

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What was ultimately permitted?

- Project alternative 6.5.11 as described in the Final EIR (commonly called "Alternative 11")
 - Half of the increase in sulfur treatment capacity originally requested (750 long tons per day instead of 900 long tons requested)
 - Physical cap on total refinery greenhouse gas emissions to baseline levels (approximately 4.2 million metric tons)
- No net increase in criteria air pollutant emissions and health risks from toxic air contaminants
- Safety program that is more stringent than current requirements
- \$90 million environmental and community investment agreement to benefit residents of Richmond and unincorporated North Richmond

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Modernization Project Air Quality Benefits

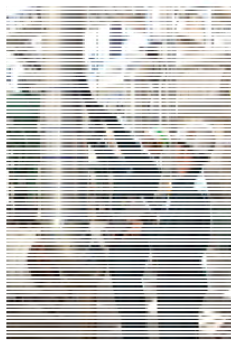
- Commitment is beyond the requirements of CEQA which in general calls for mitigation to "less than significant"
- Project results in lower emissions than no project
- Being achieved through combination of:
 - Project components that have inherent emission reduction benefits (low-NOx burners, SRU Wet ESP)
 - Project Design Features (LED Lighting)
 - Mitigation Measures (Tank Domes)
- With the type of measures above, CAPs and Health Risk will have no physical increase except for:
 - CO: Refinery will retire Emission Reduction Credits (at both 93% and 100% utilization)
 - Volatile Organic Compounds: Refinery may need to retire Emission Reduction Credits (at 100%)
- Physical cap on refinery GHG emissions

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Modernization Project Public Safety Benefits



- Analyzed damage mechanisms related to increases in feedstock sulfur
- Substantial reliability review with engagement of expert City consultant and Contra Costa County
 - Analyzed potential impacts throughout the refinery
 - Incorporate all recommendations from reliability review (17 new pipe circuits, additional PermaSense monitors)
 - Re-evaluate and Report on Post-Project Operating Assumptions from Reliability Review (2.25% and 2.75% sulfur)
 - Annual report to City
 - Annual town hall meetings with the workforce and community



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Modernization Project Community Benefits



- \$90 million Environmental and Community Investment Agreement
 - \$30 million for Community-Based Greenhouse Gas Reduction Programs as described in the EIR;
 - \$50 million for Community Programs subject to annual review by Chevron and the Richmond City Council; and
 - Sixty acres of Chevron-owned land leased to Marin Clean Energy for the development of a utility-scale photovoltaic solar farm, a non-cash contribution valued at \$10 million.
- Project Labor and Local Hiring Agreements for 1,000 new local construction jobs
- More than 1,300 indirect jobs and \$200 million in economic activity in Richmond and West Contra Costa County

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Questions?



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