STATE OF CALIFORNIA CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF MARCH 25, 2005

Prepared on March 1, 2005

ITEM NUMBER:

14

SUBJECT:

Perchlorate Sites

DISCUSSION:

New information is shown in *italics*. Please refer to the Central Coast Regional Water Quality Control Board's (Regional Board), July 9, 2004 and February 11, 2005 staff reports for additional historical background information.

General Information: The Department of Health Services (DHS) released the draft Maximum Contaminant Level (MCL) for perchlorate, on October 27, 2004. The draft MCL is 6 ppb. The DHS must now formally adopt the MCL through a statutorily defined process. The main steps in DHS' Drinking Water Program's regulations process include review by DHS' Office of Regulations, DHS' Budget Office, the Department of Finance, and the Health & Human Services Agency. It is then released to the Office of Administrative Law (OAL) for publication in the California Regulatory Notice Register announcing the availability of the regulation for a 45-day public comment period. If changes are made in response to public comments received during the first comment period, then a second 15-day public comment period will be held. The draft MCL will then be approved by the DHS Director's Office followed by a final review by OAL. Following OAL approval, the regulation is filed with the Secretary of State, and becomes effective 30 days later. Regional Board staff anticipates the MCL will be adopted within the next 12 months and will provide updates as the draft MCL makes its way through the review and adoption process.

Olin Corporation Facility, 425 Tennant Avenue, Morgan Hill, Santa Clara County [David Athey 805-542-4644] Current milestones in the investigation of perchlorate contamination on and offsite of the former Olin facility include:

Onsite Groundwater Treatment and Containment:

On November 18, 2003, Regional Board staff approved the installation and operation of the Onsite Groundwater Containment and Perchlorate Removal System (System). The System's purpose is to provide hydraulic containment and removal of perchlorate through onsite groundwater extraction and treatment. The System began operation on February 23, 2004. By April 7, 2004, System startup was completed and has been operated continuously since that time.

<u>Update</u>: Olin continues to operate the onsite groundwater containment and treatment system. For the latest information regarding the treatment system's 4th quarter 2004 performance, please refer to the February 11, 2005 staff report. The February staff report can be found on the web at: http://www.swrcb.ca.gov/rwqcb3/Board/Meetings/documents/FEB05agn_001.p

Onsite Ex Situ and In Situ Soil Treatment:

Olin has proposed to treat onsite perchlorate impacted soils using both ex situ and in situ methods. The two main components of the treatment option include: ex situ anaerobic bioremediation of perchlorate-contaminated soils greater than 7,800 µg/kg, the United States Environmental Protection Agency (USEPA) residential Preliminary Remedial Goal, and in situ bioremediation of soils above the site-specific soil screening level of 50 µg/kg. The site specific soil remediation goal is derived from the methods described in the

USEPA's *Soil Screening Guidance: Users Guide* and is the calculated concentration of perchlorate that would not result in groundwater impacts above 4 µg/L.

Regional Board staff conditionally approved Olin's Remedial Action Work Plan & 90% Design Report For Soil Remediation on June 10, 2004. Olin subsequently responded to comments and Regional Board staff provided final approval on August 3, 2004. Olin has begun In Situ system construction and has completed the Ex Situ Soil treatment pile. Figures 1 and 2 in the October 22, 2004, Staff Report show the completed Ex Situ pile without the cover.

Olin continues to construct the In Situ system and will initiate operation at the conclusion of Ex Situ soil treatment.

<u>Update</u>: Olin is continuing Ex Situ soil treatment via bioremediation. Olin is preparing to sample the Ex Situ soil pile to determine if remediation goals have been achieved. Olin will be providing the results and its recommendations to the Regional Board regarding next steps in the remediation process. Regional Board staff anticipates receiving the results and Olin's recommendations around mid-March 2005.

On and Off-site Groundwater Monitoring and Reporting:

On April 30th, Olin submitted the 1st Quarter 2004 groundwater monitoring report. This report includes information related to groundwater monitoring activities, including greater detail on groundwater flow conditions, and provides Olin's justification for its proposed groundwater monitoring system. Regional Board staff is reviewing and incorporating, where appropriate, comments from the Cities of Morgan Hill and Gilroy, the Santa Clara Valley Water District (Water District) and PCAG.

<u>Update</u>: Regional Board staff released Draft Cleanup and Abatement Order, No. R3-2005-0014 (Draft CAO) on February 4, 2005. The Draft CAO contains requirements for Olin to submit an updated groundwater monitoring plan that details its plans to fully delineate the lateral and vertical extent of the offsite plume. The groundwater-monitoring plan will be due 30 days after the Draft CAO is signed by the Executive Officer. Further details regarding the Draft CAO are included at the end of this report.

Onsite Well Sampling Activities: On January conducted 2005. Olin water-level measurements in 20 onsite and offsite monitoring wells and 8 nested (26 screen completions) onsite BarCad^c wells. Groundwater samples were collected from 33 of the 46 wells. The remaining 13 wells were sampled in early February. Olin will submit the results in the First Quarter 2005 monitoring report. The First Quarter 2005 monitoring report is due April 30, 2005.

Offsite Well Sampling: Olin has continued to collect offsite supply well groundwater samples for the First Quarter 2005 monitoring event. Between January 1 and 31, 2005, groundwater samples were collected from 86 offsite supply wells. Olin will be submitting the results in the First Quarter 2005 monitoring report.

Northeast Groundwater Flow Assessment:

Regional Board staff met with Olin and its consultants on May 17, 2004, to discuss their preliminary findings. Olin presented findings related to regional groundwater flow conditions and a simplified model of upgradient municipal well capture zones. However, Olin did not present any information on local groundwater conditions including groundwater elevations.

Olin submitted the Northeast Groundwater Flow Assessment Report on September 10, 2004. Regional Board staff met with Olin, the City of Morgan Hill, and the Water District on September 22, 2004 to discuss the report's findings.

Regional Board staff finished review of Olin's Northeast Groundwater Flow Report and provided comments to Olin in a December 8, 2004 letter. Olin's Northeast Groundwater

Flow Report was submitted before the July 31, 2005 due date. The Report included additional information in response to the Regional Board's request to determine if groundwater has migrated northeast from the site. The additional information was in the form of a groundwater flow model, which Olin used to predict groundwater flow directions. Regional Board staff disagreed with Olin's model results and has since issued a letter directing Olin to continue with the Northeast Groundwater Flow investigation. The December 8th letter directs Olin to continue with the Northeast Flow Assessment Work Plan by installing piezometers in the Northeast Groundwater Flow Study Area. In addition, Regional Board staff directed Olin to monitor northeast private supply wells for perchlorate develop and submit a forensic investigation work plan to determine if perchlorate detections upgradient can be attributed to the Olin property.

On December 28, 2004, Regional Board staff sent a follow-up letter to Olin regarding three requests Olin made in a December 16, 2004 meeting. Olin had requested that it be allowed to submit a piezometer installation work plan and schedule on January 7, 2005, delay perchlorate sampling in the Northeast Flow Study Area private wells, and that we clarify if the Water District would be performing the forensic investigation. Regional Board staff allowed Olin to submit the work plan and schedule for well installation on January 7, 2005, denied Olin's other request for a delay of sampling and clarified Regional Board staff's understanding of the Water District's forensic investigation position.

On December 30, 2004, Olin and Standard Fusee (Dischargers) requested an evidentiary hearing and stay of the December 8, 2004 letter. Olin requested the stay and hearing so that the Regional Board could reconsider the December 8, 2004 letter. An evidentiary hearing was scheduled for March 25, 2005, but has since been stayed. The stay is included in this staff report as Attachment 1. Regional Board staff and the Dischargers have agreed to stay the hearing pending execution of additional work. The stay is conditioned on the Dischargers' performing one round of

perchlorate sampling of private wells northeast of the facility and the Water District performing a forensic analysis.

Regional Board staff has received the northeast perchlorate supply well sampling work plan. Regional Board staff is reviewing the work plan to ensure conformance with the stays requirements and will be providing comments or an approval shortly. The work plan outlines the Dischargers' plans to sample private wells for perchlorate and is specifically focusing on wells that have lithologic logs or fill spatial data gaps.

The Water District has completed a draft forensic work plan and is currently conducting an internal review prior to Regional Board submission. Regional Board staff anticipates receiving the plan sometime near the first or second week of March and will provide more specific details in the May 2005 staff report.

The December 8, 2004 letter also directed Olin to proceed with northeast offsite piezometer installation. Olin submitted the piezometers installation work plan on January 26, 2005. Olin has subsequently reviewed comments from the City of Morgan Hill and the Water District and has decided to amend the work plan. Olin has indicated that it will be adding additional piezometers to the monitoring network and will be modifying installation methods for deeper aquifer intervals (> 200 feet below ground surface). Regional Board staff will review the amended plan and provide comments as needed.

City of Morgan Hill Water - Tennant Well:

Tennant well operation has resumed. Please refer to the February 11, 2005, Staff Report for additional Tenet well information. The February staff report can be found on the web at:http://www.swrcb.ca.gov/rwqcb3/Board/Meetings/documents/FEB05agn_001.pdf.

Cleanup or Abatement Order No. R3-2004-101:

The July 9, 2004 Cleanup Order directs Olin and Standard Fusee to supply uninterrupted replacement water to well owners with perchlorate-contaminated wells. The Order

requires Olin and Standard Fusee to provide interim uninterrupted water to well owners whose wells meet two important criterion. The first criteria is for wells that test at or higher than 4 ppb. Well owners with wells that test at or higher than 4 ppb shall be supplied interim uninterrupted water service (currently bottled water). The Order also establishes a mechanism for stopping bottled water supply to these wells and includes follow up monitoring. The second criterion is for wells that test less than 4 ppb. For those wells, Olin and Standard Fusee may cease supply of uninterrupted water service if, after four quarters of testing, the results remain less than 4 ppb. However, the Order requires additional testing to monitor perchlorate groundwater concentrations.

On August 5, 2004, Olin petitioned the State Water Resources Control Board (State Board) to review the Order. The State Board is currently reviewing the petition and will be issuing a determination on completeness shortly. In the meantime, Olin is continuing to comply with the ordered requirements. Wellhead treatment for the West San Martin Water Company and the San Martin County Water District wells will not be affected by Olin's appeal. Olin has made individual agreements with these water purveyors and perchlorate will continue to be removed from those supply sources. Staff has responded to the petition and is awaiting the State Board's decision.

<u>Update</u>: The State Board has not yet responded to the Discharger's petition. Regional Board staff anticipates a response in April 2005, based on the statutory response time frame of 270 days from State Board petition acceptance.

Southern Plume Area and Gilroy Wells:

During the second quarter of 2004, Olin tested 42 southern area wells near the City of Gilroy. Of these 42 wells, six were sampled for the first time. Twenty-six wells did not contain perchlorate above the reporting limit of 4 ppb. Sixteen wells had perchlorate concentrations ranging from 4 to 6.6 ppb. According to Olin, these results define the southern-most

detections of perchlorate above the Department of Health Service's 6 ppb action level. Regional Board staff is evaluating Olin's data and is working with Olin to ensure the plume's southern limit is fully delineated using the best available and reasonable Method Detection Limits.

As of the fourth quarter of 2004, the City of Gilroy supply wells have not had detections of perchlorate above 4 ppb. Regional Board staff will continue to monitor the southern plume area and work with Olin to ensure the southern plume area is properly delineated.

Perchlorate Community Advisory Group (PCAG)

<u>Update</u>: Regional Board staff provided an update at the February 4, 2005 PCAG meeting. Regional Board staff discussed Draft Cleanup and Abatement Order No. R3-2005-0014, that was released on February 4, 2005 for public comment. Regional Board staff provided a short presentation and explained the major CAO components. The Draft CAO is discussed below. The next PCAG meeting will be held on March 4, 2005.

Other issues

<u>Draft Cleanup and Abatement Order R3-2005-0014:</u> Regional Board staff released Draft Cleanup and Abatement Order R3-2005-0014 (Draft CAO) on February 4, 2005, for public comment. The Draft CAO applies to areas south of the Olin site. Draft CAO elements include:

- A Llagas subbasin groundwater monitoring plan.
- A groundwater monitoring well installation work plan.
- A Llagas subbasin characterization report.
- A plume migration control feasibility study.
- A plume migration control work plan.
- A Llagas subbasin cleanup level report.
- A Llagas subbasin cleanup feasibility study.
- A Llagas subbasin cleanup work plan.

Public comments are due to Regional Board staff by February 25, 2005. Regional Board staff will consider comments and revise the Draft CAO as appropriate. As of February 24, 2005, comments have been received from the Perchlorate Community Advisory Group. Depending on comments received, the Executive Officer anticipates issuing the final CAO shortly after comments are received, reviewed and considered.

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Olin reports and significant correspondence can be accessed on our web site by going to: http://www.swrcb.ca.gov/rwqcb3/Facilities/Olin%20Perchlorate/Index.htm.

McCormick Selph, 3601 Union Road, Hollister, San Benito County

<u>Update:</u> The discharger will be performing the first quarter 2005 sampling event on February 21, 2005. Regional Board staff anticipates receiving the monitoring data as part of the first quarter 2005, groundwater monitoring report due April 30, 2005.

The data collected as part of the quarterly monitoring events will be used to assess the success of the enhanced In situ bioremediation program (EISB). Components of *EISB* include: pre-injection the 1) groundwater monitoring (completed), 2) pilot scale injection of Hydrogen Releasing Compound (completed), 3) post injection groundwater monitoring (ongoing), and 4) preparation and implementation of a full-scale EISB work plan. Prior to preparation of the full-scale EISB work plan, six groundwatermonitoring events are scheduled to occur. There are two more groundwater-monitoring events scheduled prior to full-scale EISB work plan submittal. The Discharger will be submitting the full-scale EISB work plan by September 30, 2005.

Whittaker Ordnance Facility, 2751 San Juan Road, Hollister, San Benito County

On January 24 2005, Regional Board staff member Kristina Seley assumed project oversight responsibilities from David Athey. Ms. Seley is the newest Regional Board staff member.

On August 13 2004, Regional Board staff visited the Whittaker Ordnance facility to discuss site activities and observe site cleanup areas. Perchlorate and volatile organic compound remediation efforts continue at contaminated areas on and off site. Whittaker is still collecting data and will be submitting the following reports shortly (some reports have been received):

- First Semi-Annual 2004 Groundwater Monitoring Report This report covers monitoring activities from January 1, 2004 to June 30, 2004. This Report was received on August 30, 2004.
- Deep Aquifer Analysis Report This report discusses the best options for offsite groundwater containment. Currently, three offsite wells have been impacted. This Report was received on September 17, 2004, and is currently being reviewed by Regional Board staff.
- Former Building 22A Ethanol Infiltration Pilot-Test Status Report Addendum This report presents additional testing information collected by Whittaker. This Report was received on September 13, 2004, and is currently being reviewed by Regional Board staff.
- Ex Situ Bioremediation Pilot-Test Status Report This report presents the current test status and recommendations for additional work. This report was received on September 15, 2004, and is currently being reviewed by Regional Board staff.
- Monitoring Well Installation Report and Revised Hydrostratigraphic Interpretation Report – This report was received on September 20, 2004. The report details well installation activities performed to better define groundwater conditions downgradient. It also presents a revised interpretation of the geology and hydrostratigraphy beneath the Whittaker

site. Regional Board staff is currently reviewing this report.

- Sampling and Analysis Plan This report will be submitted in response to Regional Board staff's request for a comprehensive review of on and off site groundwater monitoring. Regional Board staff anticipates updating Whittaker's Monitoring and Reporting Program once the report is reviewed and approved. The Report will be submitted on February 25, 2005.
- Final Waste Storage Pad Demonstration Report - This report was received on October 20, 2004. This report summarizes pilot study activities for perchlorate soil remediation at the waste storage pad area. A field scale anaerobic in situ reactive zone was implemented to decrease perchlorate concentrations. The field demonstration footprint was 30 feet by 40 feet with a depth below ground surface of 40 feet. Average perchlorate concentrations decreased by 81% to 93% in monitored soil clusters. Both carbon substrates injected, corn syrup and ethanol, exhibited the same degradation trends. The report concluded that the field demonstration indicates bioremediation would likely be successful at other perchlorate source areas.
- Second Semiannual Groundwater Monitoring Report This Report was received on January 31, 2005. The report summarizes soil and groundwater monitoring activities during the second half of 2004. The report also presents the status of remediation activities.

Remedial activities currently underway at the site include:

- Point-of-use treatment systems for three private supply wells offsite including ion exchange for perchlorate remediation and granular activated carbon for VOC treatment.
- Air stripping at the Riverside well for VOC contamination.

- Groundwater extraction and treatment and soil vapor extraction at the north Building 5 septic tank area.
- Ozone sparging at the north building 5 septic tank area. Since March 2003, the system has not been operational, and although major efforts to repair the system have been conducted, no further operation of the system is proposed.
- In situ reactive zone groundwater remediation programs at the northwest site boundary, Building 23 area, upper burn area and southwest burn area.
- Proposed soil flushing at the Former Burn area. Construction efforts are underway for soil flushing. However, this remediation strategy will be reevaluated for the site-wide remediation strategy before implementation.

Whittaker is currently evaluating site wide cleanup options now that cleanup pilot tests have been completed or are near completion.

On January 27, 2005, Regional Board staff met with Whittaker's consultants to discuss their development of a comprehensive site strategy. The consultants presented their draft site cleanup strategy, a site model with remedial alternatives for contaminated site areas, and a proposed remedial program. The conceptual site model identified six soil source areas impacting groundwater. Remediation alternatives for each soil area and each impacted groundwater zone were developed. Perchlorate and VOC remedial alternatives were ranked based on effectiveness, time, and cost. Regional Board staff provided feedback to the proposed strategy, including a request for a compilation of data presented in a Site Strategy Report. Regional Board staff anticipate receiving the site-wide cleanup strategy Report in April 2005.

<u>United Defense, 900 John Smith Road,</u> Hollister, San Benito County

On January 24 2005, Regional Board staff member Kristina Seley assumed project oversight responsibilities from David Athey. Ms. Seley is the newest Regional Board staff member.

Site Investigation Update:

As reported at the July 9, 2004 Regional Board meeting, United Defense is proceeding with additional site investigations. Regional Board staff approved the additional investigation work items in a July 30, 2004 letter. The recommendations set forth within the Report include:

- Continued research and analysis of local hydrogeology and geology to determine the fate and transport of site contaminants.
- Ranch well groundwater sampling.
- Surface water sampling in the Santa Ana Creek up and down stream of the pond and up and down stream of Arena 2.
- Further evaluation of the lateral and vertical extent of perchlorate and nitrate including the implementation of additional monitoring wells, cone penetration test borings, and soil borings at Arena 1 and Building 6.
- Attainment of United Defense's nondrinking water well's construction log.

United Defense submitted the Phase III Environmental Investigation Report (Report) on September 30, 2004. The Report provides supplemental information to the Initial Site Assessment and Phase II Reports. The Phase III investigation was conducted to more fully assess the extent of perchlorate, nitrate and nitrite, energetics (explosive compounds, i.e. TNT), and aluminum contamination in site soil, groundwater, and surface water. The following areas were investigated:

 Arena 1: Previous sampling during the Phase II investigation found perchlorate at a maximum of 2,900 milligrams per kilogram (mg/kg) in soil and 2,600 micrograms per liter (μg/L) in groundwater. Soil results from the Phase III investigation ranged from ND to 3.4 mg/kg. As stated in the Report, Phase II and Phase III perchlorate soil samples are generally highest within two feet below ground surface. Perchlorate detections in groundwater for the Phase III analysis ranged from ND to $8.5~\mu g/L$. These results are from groundwater samples taken from recently installed groundwater wells. Previous groundwater perchlorate results were collected from temporary soil borings.

- Arena 2: One soil boring at 0.5 ft had a perchlorate detection of 3.7 mg/kg.
- Three Nearby Groundwater Wells: Perchlorate was detected in the Rancher's well at 15 µg/L and the Windmill well at 34 µg/L. Nitrate + nitrite (as N) was detected in the Windmill well and WW-1 at 45 µg/L and 4.2 µg/L respectively.
- Ranch Pond Dredge Area: Perchlorate was detected at 1.1 mg/kg in one of the two soil boring samples taken. Nitrate + nitrite (as N) was detected at 8.2 mg/kg and 27 mg/kg in the two borings. Aluminum was also detected at 13,000 mg/kg and 17,000 mg/kg, but results were below the background sample results of approximately 25,000 mg/kg.
- Building No 6 Area: Additional energetic sampling was conducted near Building No. 6 to further assess the extent of HMX, RDX, and TNB (energetics) contamination. The Report states that generally concentrations increase with depth. HMX, RDX, and TNB were found at 2,400 µg/kg, 1,200 µg/kg, and 240 µg/k, respectively, 20 feet below ground surface.
- Building No 1 Area: All groundwater and surface water results tested non detect for energetics and perchlorate.
- santa Ana Creek: All surface water samples of perchlorate, nitrates and nitrites, and energetics were non-detect. Dissolved aluminum was detected in four samples ranging from 0.14 mg/L to 0.25 mg/L. Sediment samples exhibited similar results; perchlorate, nitrates/nitrites and energetics samples were all non-detect. However, aluminum concentrations ranged from 6,300 mg/kg to 13,000 mg/kg.

On November 30, 2004, United Defense submitted its Phase III Environmental Investigation Report Addendum. The Addendum provided additional monitoring results to fill data gaps; findings from the Addendum are included below.

- Arena 1: Additional soil borings were advanced to assess the extent of perchlorate contamination. One of 33 soil samples detected perchlorate at 1.1 mg/kg at a depth of 1.5 to 2 feet below ground surface (bgs).
- Cattle Guard: Soil samples where Arena 1 drainage meets the Santa Ana Creek were non detect for perchlorate.
- Water Well WW-2: Groundwater was collected from WW-2 and analyzed for perchlorate, nitrate + nitrite, and nitroaeromatics/nitroamines (energetics). Perchlorate and energetics were not detected, however, nitrate + nitrite as N was detected at 3.5 mg/L.

Regional Board staff has completed review of both the Phase III Report and Report Addendum. Regional Board staff provided comments to United Defense on December 22, 2004. Regional Board staff directed United Defense to proceed with the onsite environmental investigation and provide a Phase IV Report by April 1, 2005. The following highlights information United Defense is required to submit as part of the Phase IV Report:

- Resample the Windmill well. If perchlorate is confirmed, propose an investigation to identify the source and extent of perchlorate contamination.
- Continue to monitor for perchlorate and nitrate + nitrite in the Ranch Pond Dredge area.
- Determine vertical and lateral extent of energetic contamination at Building 6.
- Begin quarterly sampling of the Rancher's well and Windmill well and installed monitoring wells for nitroaromatics/ nitroamines (energetics), perchlorate and nitrate + nitrite.

- Develop a site-specific monitoring plan for monitoring of constituents of concern (COCs).
- Propose cleanup standards for perchlorate and energetics by July 1, 2005.

Regional Board staff anticipates issuing a monitoring and reporting program for the United Defense, Hollister Test Facility following submittal of site-specific monitoring plan in the Phase IV Report. Once perchlorate and energetic cleanup standards are determined and monitoring data is collected to delineate vertical and lateral extent of COC contamination, Regional Board staff will require United Defense to submit a cleanup plan.

On February 4, 2005, Regional Board received the following documents.

- Revised Analytical Results for Table 1 and 2 for the Phase III Environmental Investigation – The Phase III revised results include a greater detail of perchlorate concentrations. The lab's method detection limits were decreased to 4 ppb for perchlorate groundwater results and 10 to 40 ppb for perchlorate soil results. The same samples were reanalyzed by the laboratory with the increased sensitivity of 4 ppb. The decrease resulted in two soil detections at Arena 2 and over 16 soil detections between 0.17 mg/kg and 1.8 mg/kg that were previously non-detect.
- Storm Water Pollution Prevention Plan
- Storm Water Monitoring Program
- Addendum Work Plan Phase IVEnvironmental Investigation The Addendum Work Plan proposes work to be performed during the Phase IV Environmental Investigation (EI). The Phase IV EI will address Regional Board comments issued in our December 6, 2004 letter and comments from the landowner who leases the site to United Defense. The EI will further assess site stratigraphy, water quality, and lateral and vertical extent of COC contamination, particularly at Arena 1. Regional Board staff anticipates approving the proposed work.

On February 8, 2005, Regional Board staff spoke with United Defense's consultant, URS. URS stated they were moving aggressively with the work plan and have already begun site work. The Phase IV Report will be submitted by April 1, 2005.

Staff is currently reviewing the four reports and anticipates issuing comments prior to the March 25, 2005 Board Meeting.

ATTACHMENTS

1. Stay of March 25, 2005, Regional Board Hearing, Olin/Standard Fusee Site.

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