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JAN 2007
OFFICE OF THE CHIEF COUNSEL

January 24, 2007

Ms. Lori Okun
Office of Chief Counsel
State Water Resources Control Board
1001 I Street, 22nd Floor
Sacramento, CA 95814

Re: Olin Corporation Site, Morgan Hill, California
Olin Cleanup Feasibility Study – Revised- December 6, 2006

Dear Ms. Okun:

On behalf of the City of Morgan Hill ("City") we wish to thank the RWQCB Staff for their recent naming of Olin Corporation ("Olin") as the discharger in the Northeast Contamination Area. We believe that this was the right decision, and we hope it will aide in bringing us all closer to a point of resolution of this issue.

As a result of the submittal of the Olin Cleanup Feasibility Study - Revised- December 6, 2006 ("Revised FS") we are compelled to write this letter on behalf of the City to address some of the legal issues raised by that document. Our concern is that the Revised FS does not appear to be responsive to the Central Coasts Regional Water Quality Control Board's ("RWQCB") letter to Olin of October 6, 2006 ("Letter") with reference to the originally submitted Cleanup Feasibility Study dated June 30, 2006. Under separate cover a report by Worley-Parsons Komex relating to the Revised FS has been sent to staff which comments on the technical issues.

The City believes that the guidance provided by the RWQCB in the Letter to Olin has not been followed, and it would appear that Olin's FS does not meet the requirements of California law, and the State Water Resources Control Board's ("SWRCB") non-degradation policies as expressed in Resolution 68-16 and Resolution 92-49.

1. Legal Setting

(a) SWRCB Resolution 92-49

As required by Water Code § 13307 the SWRCB is to establish policies and procedures for the RWQCBs including for the "oversight of investigations and cleanup and abatement activities resulting from discharges of hazardous substances." The requirement set forth in the

Water Code is expressed in Resolution 92-49. Resolution 92-49 requires that the RWQCB take into account site specific characteristics, applicable state and federal statutes and regulations, SWRCB Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California); and "relevant standards, criteria, and advisories adopted by other state and federal agencies."

(i) Resolution 68-16

Resolution 68-16 is commonly referred to as the SWRCB's non-degradation policy. It states in pertinent:

> "Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed."

Simply put, a discharge can not alter the quality of water unless it can show that the change in some ways "benefits" the public.

(b) <u>Relevant Portions of Resolution 92-49</u>

(i) Resolution 92-49 requires that the RWQCB to "implement" procedures to:

> "...ensure that dischargers shall have the opportunity to select *cost-effective methods* for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof..." (Emphasis added).

(ii) The requirements to ensure this is accomplished are lengthy and are summarized below:

(1) The RWQCB should agree with a remediation plan that has a " a substantial likelihood to achieve compliance, within a reasonable time frame, with cleanup goals..."and which "implement permanent cleanup and abatement solutions which do not require ongoing maintenance, wherever feasible".

(2) Consider if the cost of reports is reasonable given the cleanup.

(3) Require an analysis of the "effectiveness, feasibility, and relative costs of applicable alternative methods for ... cleanup and abatement" which can be done by comparing other sites.

(4) Require compliance with Resolution No. 68-16 provided "that under no circumstances shall these provisions be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions."

(5) Ensure remediation promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored. To make this determination the following is to be considered:

- All demands being made and to be made on those waters
- The total values involved, beneficial and detrimental, economic and social, tangible and intangible; in approving any alternative cleanup levels less stringent than background.

(iii) Title 23 CCR Section 2550.4

Resolution 92-49 makes reference to the above cited CCR section to supply a matrix of analysis if background levels can not be achieved. As noted in "Questions And Answers State Water Resources Control Board Resolution No. 92-49" dated February 16, 1995 ("Q&A") the SWRCB states:

> "In addition, Title 23 California Code of Regulations (CCR) Section 2550.4 applies in determining cleanup levels less stringent than background. Cleanup levels less stringent than background must attain the following requirements in Paragraph III.G of the Resolution:
>
> 1. Be consistent with maximum benefit to the people of the state[1];
>
> 2. Not unreasonably affect present and anticipated beneficial uses of such water; and
>
> 3. Not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State and Regional Water Boards.

[1] The Q&A also states that the term "consistent with the maximum benefit to the people of the state" means: "Resolution No. 92-49 requires alternative cleanup levels less stringent than background to, among other factors, "be consistent with maximum benefit to the people of the state" and requires consideration of all demands being made and to be made on the waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. As with Resolution No. 68-16, this determination is made on a case-by-case basis and is based on considerations of reasonableness under the circumstances at the site. Factors to be considered include (1) past, present, and probable beneficial uses of the water (specified in Water Quality Control Plans); (2) economic and social costs, tangible and intangible, of the proposed discharge compared to the benefits, (3) environmental aspects of the proposed discharge; and (4) the implementation of feasible alternative treatment or control methods."

> To comply with this Resolution, the cleanup level of polluted ground water would range between background and the applicable water quality objective specified in water quality control plans."

(c) Olin has not complied with the RWQCB's Orders

As outlined in the Worley-Parsons Komex report, the Revised Feasibility Study fails all three objectives. In the Letter, staff makes various comments relating to the original Feasibility Study. It is important to point these continued areas in which Olin has not considered the requests of the RWQCB.

(i) Background Levels

In the Revised FS, Olin has not assessed background levels. They merely states that the Santa Clara Valley Water District's testing, to be accomplished some time in the future, will provide this information. But, the Letter clearly states the following in respect to this issue which Olin has not responded to:

> "Until Olin substantiates its assertion that a measurable anthropogenic or natural level of perchlorate exists within the entire Llagas Subbasin, we must assume that the background level for perchlorate in groundwater is less than the MDL of 1.4 pg/L. Given the large size of the plume, background may be higher in localized areas, such as areas of higher agricultural use." (Letter, page 3).

> "We understand that Olin has taken the position that it will wait for the results of the Water District's study and depend on the results of the study to confirm that other perchlorate sources are contributing to the existing perchlorate groundwater impacts. You must understand, however, that in the interim and until data demonstrate that detected concentrations of perchlorate in groundwater within the Llagas Subbasin are attributed. to anthropogenic sources, we must assume that the background concentration of perchlorate within the Llagas Subbasin is less than the MDL for each impacted aquifer zone. Therefore, unless you perform the Title 27 background calculations specified above, you must revise the Cleanup FS Report to include the premise that the background perchlorate concentration in groundwater is less than the MDL." (Letter, page 3)

(ii) Agricultural Issues

The Letter requested Olin to address this issue as follows and Olin has not responded:

> "The Cleanup FS Report fails to address the existing beneficial use of groundwater for agricultural purposes. The Basin Plan designates groundwater beneath and adjacent to the Olin facility as suitable for agricultural water supply, municipal and domestic water supply, and industrial use. While we understand the detected perchlorate concentrations at many well locations are presently below the PUG, the presence of perchlorate in underlying groundwater indicates that the quality of groundwater has been degraded. The Cleanup FS Report fails to address the potential damage to crops, agricultural economy and human health of consumers due to the exposure of crops to perchlorate-impacted groundwater." (Letter, page 6)

(iii) Other Potential Sources

The Letter, the City observes, laid to rest the constant assertions from Olin that "there must be another source." Specifically, the Letter dealt with the issues of UTC, flares, well disinfection and mushroom farms. Yet Olin continues to reference phantom sources. The Letter states:

> "As addressed in our July 24, 2006 response letter concerning the 'First Quarter 2006 Monitoring Report,' 'To date, the other potential perchlorate sources identified have not been investigated to determine if any of them are contributing to the groundwater impacts. Therefore, it is premature to imply that a source(s) other than Olin must be the cause of the groundwater impacts detected when the other identified potential sources of, perchlorate have not been investigated or confined to impact groundwater.' Although this specific comment was intended for the area northeast of the Olin Site, it is also applicable throughout the Llagas Subbasin and south of the Olin Site. Therefore, at this time and until it is confirmed with data, we must assume that the former Olin Site is the primary source of perchlorate detections south of Tennant Avenue and immediately east and northeast of the Site." (Letter, page 9)

(iv) Well Disinfection

The Letter further stated more specifically as to the issue of Well Disinfection that is was not considered to be a "source" of perchlorate, yet Olin references this as a potential source:

> "The Cleanup FS Report does not provide evidence of long-term impacts from well disinfection practices... If Olin contends that well disinfection practices are contributing to the existing groundwater impacts, Olin must provide supporting evidence of the degree and extent of impact associated with well disinfection practices within the entire Llagas Subbasin." (Letter, page 9-10)

(v) The Mushroom Farms

Aside from the admonition relating to these farms in the Letter, the recent test results of these tests shows that groundwater was not impacted, yet Olin views this as a potential "source"[2]. The Letter further stated specifically as to the issue of use of hypochlorites at local mushroom farms:

> "This section indicates that since agricultural businesses (e.g., wineries and mushroom farms) commonly use sodium hypochlorite for the control of bacterial growth, for the disinfection of water supplies, and to disinfect equipment, they are a source of perchlorate to groundwater. Olin believes this theory is supported because recent sampling at mushroom farms conducted by Central Coast Water Board staff detected perchlorate concentrations ranging from <0.46 pg/L to 39 pg/L... As a follow-up to on-going investigations and to determine whether food-processing facilities are contributing to the existing perchlorate impacts, Central Coast Water Board staff has required the collection of a groundwater sample at a mushroom farm. However, results from the groundwater investigation are pending. Without site-specific information verifying that other perchlorate sources exist and contribute to measurable perchlorate in the groundwater, it will be difficult to link "potential sources" to actual pollution. We support any investigations Olin might undertake to verify that other perchlorate sources exist and contribute to perchlorate-impacted groundwater." (Letter, page 10)

(vi) UTC

The Letter further stated more specifically as to the issue of the possible contribution by the UTC site to perchlorate contamination in the Llagas Subbasin:

> "While we agree that the UTC Site could be a possible perchlorate source to specific areas of the Llagas Subbasin, additional investigation including supporting data (evidence) is necessary to

[2] It is somewhat ironic that MacTec has recently filed a comment letter with staff concerning their belief that the legally required protocols for testing at the mushroom farm were not followed.

> confirm whether and to what extent the UTC Site has contributed to the perchlorate detections... We support any investigations Olin might undertake to verify that the UTC Site has contributed to perchlorate concentrations detected in groundwater." (Letter, pages 10-11)

The City has not seen any such investigation results initiated by Olin.

(vii) Highway Safety Flares

The Letter further stated more specifically as to the issue of highway safety flares:

> "While we agree there is a potential for highway safety flares to contribute to groundwater, at this time no data is available to support this statement. As is the case with regards to the mushroom farms, the fact that perchlorate concentrations have been detected in surface water samples does not prove that highway flares are contributing to measurable groundwater impacts. If that were the case, widespread perchlorate detections would occur in all urban areas." (Letter, page 11)

Unfortunately, Olin still cites this as a potential "source"[3].

2. Economics

As analyzed by Worley-Parsons Komex, the assertion by Olin that the clean up costs could be $295M is on very shaky grounds, but despite that, the ability to fund such a clean up is not an issue of concern to the RWQCB.

First, only when containment zones are considered is the ability to pay an issue. there is no reference in Resolution 92-49 to the economic impact to the discharger except as to the issues relating to containment zones. Olin does not suggest its clean up plan meets the stated qualifications for establishment of a containment zone. Secondly, it must be remembered that for several decades Olin received the economic benefit of disposing of its waste perchlorate into the groundwater aquifer.

[3] Again, with a further note of irony, in the personal injury/property damage cases there was discovery relating to the fact that the Morgan Hill facility was constructed so as to supply the State of California with flares, which would include both CalTrans and the Highway Patrol.

3. Area 1 Clean Up

Olin plans on remediating Area 1 on the following basis:

> "Cleanup scenarios were evaluated for areas within three concentration ranges called Priority Zones, defined by concentrations, as follows:
>
> • Priority Zone A = concentrations greater than 24.5 μg/L (plume core)
>
> • Priority Zone B = concentrations between 24.5 μg/L and greater than 11 μg/L
>
> • Priority Zone C = concentrations between 11 μg/L and greater than 6 μg/L.
>
> It is important to note that the concentrations used to define each priority zone simply represent a means to logically define the areas of highest priority for remedial action in areas with perchlorate concentrations exceeding the cleanup level. Remediation should be initiated in a phased manner with the highest priority placed upon the area with highest perchlorate concentrations (i.e., plume core), located within Area I, even as characterization of this area continues. " (Revised Feasibility Study, Page 1-3)

Despite the admonition from the RWQCB, Olin continues to use of 24.5 μg/L, 11 μg/L and 6 μg/L as a basis for clean up.

• 24.5 μg/L: Olin's basis for the selection of the level used to define the plume core of 24.5 μg/L is set forth in the Revised Feasibility Study on page 4-14. They state:

> "EPA has recently published a PRG for perchlorate in drinking water of 24.5 μg/L (USEPA, 2006) and this value is used to define the plume core (Priority Zone A) for the purposes of prioritizing remedial action and to initiate cleanup of groundwater in the Llagas Subbasin.[4]"

• 11 μg/L: The 11 μg/L level, used by Olin in the Revised Feasibility Study is explained on page 6-2 as emanating from Olin's proposed "Cleanup Level for Perchlorate in Off-Site Groundwater report (MACTEC, 2006c)".

This document was not accepted by the RWQCB.

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[4] This level is not binding on the RWQCB and there is strong reasons to view that number with some skepticism given the difference in interpretation of drinking water safety that defines the US EPA from Cal EPA.

• 6 μg/L: Is the current Notification Level for drinking water in the State of California. However, the State Water Resources Control Board specifically determined that this level does not bind the RWQCB in terms of clean up levels. It stated:

> "This Order applies only to requirements for water replacement and not to groundwater or soil cleanup levels required under State Water Board Resolution 92-49. [Attached footnote: This Order does not prevent a regional water board from requiring any action that is related directly to remediation of ground water or is necessary to prevent migration of waste through ground water.]"[5]

Further, the RWQCB has emphatically stated in the Letter the following:

> "Olin's calculated drinking water standard cannot serve as the basis for making decisions concerning groundwater cleanup in accordance with Resolution No. 92-49. Protection of beneficial uses requires cleanup to at least 6.0 pg/L, within a reasonable period of time. (Resolution No. 92-49; Water Code Section 13307(a)(4).)" (Letter, page 12)

The City is deeply disappointed at the Revised FS submitted Olin. We trust the RWQCB views the Revised FS in a similar way and will make every effort to have Olin comply.

Very truly yours,

Steven L. Hoch
For HATCH & PARENT
A Law Corporation

cc: Mr. Ed Tewes
Mr. Jim Ashcraft
Ms. Janet Kern
Dr. Mark Trudell

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[5] State Of California - State Water Resources Control Board Order WQ 2005 - 0007
In the Matter of the Petitions of Olin Corporation And Standard Fusee, Incorporated - SWRCB/OCC FILES A-1654 and A-1654(a)