STATE OF CALIFORNIA

ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the matter of: The Boeing Company Rocketdyne Propulsion and Power Santa Susana Field Laboratory, Areas I and III Simi Hills, California 93065 EPA ID. NO. CAD 093 365 435 and National Aeronautics & Space Administration (NASA) / The Boeing Company Santa Susana Field Laboratory, Area II Simi Hills, California 93065 EPA ID. NO. CA1 800 090 010	Docket Number: PAT-FY08/09-02 RE: FINAL APPEALS DECISION AND ORDER California Code of Regulations, Title 22, Section 66271.18

I. INTRODUCTION

On November 19, 2004, the Department of Toxic Substances Control's Southern California Permitting and Corrective Action Branch (SCPCAB) issued two Class 2 Permit Modifications for two Post-Closure Permits (PC-94/95-3-02, MOD SC3-111904-A and PC 94/95-3-03, MOD SC3-111904-B). These two post closure permits govern nine closed surface impoundments at the Santa Susana Field Laboratory facility (SSFL or Facility) under the Resource Conservation and Recovery Act (RCRA) requirements. The SSFL is located in Simi Hills, Ventura County, California.

On or before December 22, 2004, DTSC received two petitions for review (appeals) of SCPCAB's permit modification decisions. One petition was filed jointly by The Boeing Company Rocketdyne Propulsion and Power and National Aeronautics & Space Administration (NASA) (hereafter Petitioner Boeing), and one from

Philip Chandler (hereafter Petitioner Chandler). Eighteen (18) comments were received by the DTSC from Petitioner Boeing and are identified as Comments II-A through II-D, II-E(1) through II-E(6), II-F(1), II-F(2), II-G, III-A through III-D, and IV. Eleven (11) comments were received by DTSC from Petitioner Chandler and are identified as Comments 1, 2a, 2b, 3, 4, 5a, 5b, 6a, 6b, 7 and 8. Petitioner Boeing and Petitioner Chandler appealed conditions in the final modified permits on the grounds that in issuing the final permit modification decisions, DTSC made numerous revisions to the language of the two draft Class 2 Permit Modifications.

On November 4, 2008, DTSC's Permit Appeals Officer issued the Order Partially Granting Petition for Review and Denial of Review (Docket Number PAT-FY08/09-02), granting review of Petitioner Boeing's appeal Comments II-A through II-D, II-E(1) through II-E(6), II-F(1), II-F(2), II-G, III-A through III-D and Petitioner Chandler's comments 2a, 5a, 6a, and 6b. The comments were granted review based on the fact the SCPCAB made substantial changes to the draft permit after the close of the public comment period. For reasons stated in the November 4, 2008 order, DTSC denied Petitioner Boeing's petition for review for Comment IV and denied Petitioner Chandler's petition for review of comments 1, 2b, 3, 4, 5b, 7 and 8.

Pursuant to California Code of Regulations (CCR), title 22, section 66271.18(c), the Permit Appeals Officer established a briefing period for this appeal, which concluded on December 22, 2008. Interested persons were invited to submit written arguments pertaining to the issues that were granted review and if necessary, request an Informal Appeals Conference to present their arguments orally. Written arguments were received from the persons listed below.

1. Mr. Arthur J. Lenox, Environmental Remediation, The Boeing Company
2. Ms. Nancy J. Long, Office of Legal Counsel, DTSC;
3. Mr. William P. Bowling, Aerospace Cancer Museum of Education
4. Ms. Christina Walsh, Aerospace Cancer Museum of Education

Petitioner Chandler did not summit any written arguments during the briefing period.

This “Final Appeals Decision and Order” (Order) constitutes the Permit Appeals Officer’s final decision on the merits of the petitions for review of the final Class 2 permit modification decisions for two Post-Closure Permits (PC-94/95-3-02, MOD SC3-111904-A and PC 94/95-3-03, MOD SC3-111904-B).

II. JURISDICTION

The Department has jurisdiction over hazardous waste facility permits and the imposition of conditions on such permits pursuant to the California Health and Safety Code section 25200 et seq., and California Code of Regulations, title 22, section 66270.30.

On July 23, 1992, the State of California received final authorization under section 3006(b) of the Resource Conservation and Recovery Act of 1976, as amended, (RCRA), 42 U.S.C. section 6926(b), to operate its hazardous waste program in lieu of the federal program. (57 Fed. Reg. 32,726 (July 23, 1992)). As a RCRA-authorized state, California has the authority to issue, modify and administer RCRA-equivalent permits.

III. BACKGROUND

A. Facility Description and History

The SSFL is located in Simi Hills of eastern Ventura County. The SSFL is divided into four administrative areas identified as Area I, Area II, Area III, and Area IV. Areas I and III encompass approximately 791 acres and are owned and operated by The Boeing Company. Area II, consisting of approximately 404 acres along with 42 acres in Area I, is owned by NASA and operated by Boeing. Area IV is owned by Boeing-Rocketdyne and consists of approximately 290 acres. The Department of Energy owns facilities on a 90 acre site within Area IV. The Facility also includes two buffer zones totaling approximately 1325 acres.

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In the mid-1980s, the respective owners and/or operators discontinued the use of the nine RCRA surface impoundments in Areas I, II, and III. There are four RCRA regulated surface impoundments in Area II and five in Areas I and III. The RCRA surface impoundments had been used for containment purposes for activities related to the testing of rocket engines and engine components. The impoundments received rinse water that may have contained traces of fuels, oxidizers, or solvents. The impoundments have been undergoing the formal RCRA closure process since 1985. The respective owner and/or operators are required to conduct post-closure care because the surface impoundments could not be clean-closed due to groundwater contamination.

B. PERMIT DECISION

In 1995, SCPCAB issued two Hazardous Waste Facility Post-Closure Permits for the facility. The permit (PC-94/95-3-02) for Areas I and III was issued to Rockwell International Corporation, Rocketdyne Division (Rockwell-Rocketdyne). The permit (PC-94/95-3-03) for Area II was issued to NASA and Rockwell-Rocketdyne. After issuance of the permits, Rockwell-Rocketdyne was purchased by The Boeing Company. The Boeing Company, Rocketdyne Propulsion and Power is the owner/operator for Areas I and III. NASA and Boeing-Rocketdyne are the owner and operator for Area II, respectively.

On February 27, 2003, the SCPCAB issued notification to The Boeing Company (the operator of both permits) that the groundwater monitoring programs established for the two 1995 post-closure permits at the SSFL do not satisfy the requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 6. On May 28, 2003 The Boeing Company submitted two permit modification requests to the DTSC for modification of the two 1995 hazardous waste facility permits (Permit Numbers PC-94/95-3-02 and PC-94/95-3-03). The two proposed permit modifications were submitted:

1. to update the groundwater monitoring program;
2. to update the Water Quality Sampling and Analysis Plan; and,
3. to update language in the permit to add clarification.

On June 3, 2003, the SCPCAB issued a public notice announcing the start of a 60-day public comment period for proposed modifications to the permits. The public comment period ended on August 4, 2003. The SCPCAB received a total of eleven comments; eight were from Christina Walsh (West Hills Property Association, Inc.), two were from Linda Parks (Board of Supervisors, County of Ventura District 2) and Liz Crawford, and one was from Madeline Felkins.

On November 19, 2004, the SCPCAB issued its final Hazardous Waste Facility Post-Closure Permit decisions on the two permit modification requests for the four RCRA surface impoundments in Area II and five in Areas I and III, along with a Response to Comments Document. A Notice of Exemption was filed to comply with the requirements of California Environmental Quality Act (CEQA) along with the final permit decision on November 19, 2004. The SCPCAB's final permit decision included the following:

1. Incorporating language to make sections of the permit consistent with regulatory language.
2. The addition of and/or removal of wells in the groundwater monitoring program.
3. The construction of three new monitoring wells.
4. Removing the permit condition to videotape selected wells.
5. Reinstating many of the monitoring wells back into various monitoring programs.
6. Adding existing wells (not previously part of the monitoring program) into the groundwater monitoring program.

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C. PERMIT APPEAL PROCESS

Pursuant to California Code of Regulations, title 22, section 66271.18(a), the period for filing a petition for review (appeal) of this final Permit decision ended on December 22, 2004. Appeals were submitted by Petitioner Boeing and Petitioner Chandler on or before that date.

Pursuant to California Code of Regulations, title 22, section 66271.18(c), the Permit Appeals Officer issued the "Order Partially Granting Petition for Review and Denial of Review" (Docket Number PAT 08/09-002), on November 4, 2008, granting review for 21 appeal comments and staying the permit. A public notice was issued establishing a briefing schedule for the purpose of allowing individuals an opportunity to file written arguments concerning the appeal comments granted review. The appeal briefing period began on November 4, 2008, and ended on December 22, 2008. Four briefing documents (briefs) were received from the following persons (briefers) on or before December 22, 2008:

1. Mr. Arthur J. Lenox, Environmental Remediation, The Boeing Company
2. Ms. Nancy J. Long, Office of Legal Counsel, DTSC;
3. Mr. William P. Bowling, Aerospace Cancer Museum of Education
4. Ms. Christina Walsh, Aerospace Cancer Museum of Education

IV. FINDINGS

This Order addresses only the 21 appeal comments that were granted review in the "Order Partially Granting Petition for Review and Denial of Review" (Docket Number PAT 08/09-002), dated November 4, 2008. The analysis of each appeal comment for the purpose of this Order includes review of the relevant portions of all submissions on that comment/issue by all parties, including but not limited to comments on the draft permit, subsequent appeal comments, and briefs. However, the issues raised by petitioners and others in their briefs that are not germane to the 21

appeal comments are not addressed because they are outside the scope of this review.

Boeing Comment II-A

The Permit Imposes an Excessive Constituents of Concern Analysis That Does Not Adequately Consider Historical Data

Boeing Appeal Comment II-A

The Boeing appeal is that an over inclusive suite of constituents of concern (COC) is required for groundwater analysis. Boeing asserts that certain COCs had not been detected in previous analysis and should be excluded from a baseline analysis requirement. Requirements related to frequency of monitoring are addressed in Comment II-B, therefore references related to frequency of monitoring have been removed from Comment II-A.

Boeing Briefing Argument - Comment II-A

> As stated in Boeing and NASA's Request for Review “the Permit Modification Decisions impose excessive Constituents of Concern analyses. These requirements do not adequately consider historical data, which demonstrate that the requirements are excessive.
>
> A robust groundwater quality data set has been developed for the SSFL site covering a span of several decades. In total, over 350 wells and peizometers have been sampled yielding more than 19,000 samples and over 525,000 individual analyses. The results of the extensive and long-term groundwater sampling and analyses conducted at the facility have been provided to DTSC, and demonstrate that the blanket requirement for Constituent of Concern (COC) analyses as a "minimum analytical suite" is not warranted and is excessive. These data indicate that the area of impacts to groundwater at and in the vicinity of SSFL can be more than adequately demonstrated by a thoughtful analytical approach.
>
> In particular, through 2005, The Boeing Company had collected and analyzed over 2,200 groundwater samples for parameters other than volatile organic compounds listed in the DTSC Permit Modification Decisions. (Haley & Aldrich, Inc., “*Evaluation of Constituents of Concern*

Relative to Volatile Organic Compounds (VOCs) in SSFL Groundwater Samples." 3 August 2006. Attachment 1). These data were made available to DTSC.

In all occasions but one, the validated data indicate that the samples where non-volatile organic COCs were indicated are associated with the detection of VOCs in groundwater. All other instances involved common laboratory contaminants or naturally occurring COCs (sulfate, nitrate or ammonia). The single instance, out of 2,200 groundwater samples, of a non-volatile organic COC detection independent of VOC detections was from an on-site monitoring well location in an identified and documented area of groundwater impacts. The data therefore demonstrate that monitoring on a regular basis for a select indicator analytical suite, such as VOCs, is an appropriate and effective method for monitoring groundwater conditions."

DTSC's Boeing Team Briefing Argument – Comment II-A

After review of the existing permit and Waste Quality Sampling Analysis Plan (WQSAP), DTSC's Geological Services Unit (GSU) staff determined that the WQSAP, including the list of monitoring parameters and COCs, were not in compliance with the requirements of California Code of Regulations, title 22, [*div. 4.5, chap. 14*], Article 6. Furthermore, DTSC determined that the procedures used to purge and sample the wells were not consistent at different locations and may not yield samples representative of the groundwater quality. It is not clear what results the new purge and sampling protocols will yield. Therefore, the comprehensive data referred to by Boeing may not be an appropriate baseline. The one-year of quarterly sampling required in the proposed permit modification will assist in evaluating, for comparison purposes, the historical data set and/or to establish a new baseline. The sampling frequency after the first year may be reduced to semi-annual sampling.

Response to Boeing Comment II-A

Boeing's appeal comment is based on a general allegation of an erroneous finding of fact by the Department in the issuance of the permit modification. Boeing alleges that the analytical suite of COCs required in the modification is excessive by being overly inclusive and that the Department has not considered all historical data.

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California Code of Regulations, title 22, section 66271.18, subsection (a)(1), requires the petitioner to show that the condition in question is based upon a finding of fact or conclusion of law which is clearly erroneous. This is defined as the petitioner's burden of proof.

Petitioner points to over 525,000 individual analyses and states that these results have been provided to the Department. Petitioner argues the fact that many individual analyses have been performed for samples taken from the site demonstrates that the requirements in the permit condition are excessive. Petitioner has shown that an extensive number of analyses have been performed on samples taken from the site. But Petitioner has not provided specific evidence that shows that the requirements in the permit condition are clearly erroneous or exceed legal authority.

The petitioner attempts to provide specific support for its general allegation by relating that there are 2,200 samples of groundwater in which VOCs and sometimes non-VOC COCs were detected. The petitioner argues that because VOCs were always present when non-VOC COCs were detected, that it is appropriate to analyze for only VOCs. However, Petitioner does not explain how analyzing only for VOCs will provide information on non-VOC COCs which may or may not be present in the sample. It could be concluded that a positive VOC analysis may or may not indicate the presence of a non-VOC COC. Without presenting a method of monitoring or detecting the non-VOC COC, the petitioner has not shown that monitoring for the specified COCs is excessive in light of the historical data.

The Permit Appeals Officer finds that while Boeing has alleged that the COC list is excessive and was developed without consideration of all of the historical data, Boeing has not provided specific evidence showing that the selection of the analysis suite does not comply with the requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 6. Based upon the foregoing, the Boeing Appeal Comment II-A is denied.

It is noted that interested parties Bowling and Walsh each submitted briefs supporting additional monitoring.

<u>Boeing Comment II-B</u>

Requiring Quarterly Monitoring Disregards Historical Sampling and Water Quality Trends

<u>Boeing Appeal Comment II-B</u>

Boeing asserts that the quarterly analysis requirement is excessive. Boeing states the complete Constituents of Concern analyses should be required only once initially to determine an appropriate indicator analytical suite, i.e. “monitoring parameters” such as VOCs, pursuant to requirements of California Code of Regulations, title 22, section 66264.97. Then, in order to ensure that the indicator analytical suite continues to be appropriate, the complete Constituents of Concern analyses should be repeated on at least a five-year frequency, as specified in 22 CCR Section 66264.98(g).

<u>Boeing Briefing Argument - Comment II-B</u>

> Boeing and NASA’s Class 2 Permit Modification proposed analyzing wells semi-annually. As stated in Boeing and NASA' s Request for Review, the Permit Modification Decision requires quarterly monitoring. This requirement disregards historical sampling and water quality trends.
>
> The data developed through extensive groundwater sampling and analyses at the facility and provided to DTSC demonstrate that the requirement for collection of quarterly groundwater samples for analyses is not warranted or supported.
>
> The Boeing Company and NASA have provided DTSC with a robust, significant data set and interpretations related to groundwater quality trends. Examples of the information provided to DTSC for evaluation of water quality trends are the concentration versus time plots included in:
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> *[Referenced documents identified as Attachments 4-12 and listed by Boeing are not included*]

These data were developed and submitted to DTSC through extensive groundwater sampling and analyses at the facility. They demonstrate that the quarterly monitoring requirement frequency is excessive and is not justified by the observed stability in groundwater quality and overall declining trends in the concentrations of COCs in groundwater.

Additional information has been provided to DTSC supporting the justification for a reduced sampling and analysis frequency of less than quarterly. These data include an analysis of the stability of areas of impacted groundwater at the SSFL (MWH, *"Evaluation of Monitoring Results Obtained during the Cessation of Groundwater Extraction,"* August 2006; Attachment 13). This study was conducted to aid in identifying overall groundwater quality trends at the site. This evaluation determined that water quality in wells located at the perimeter of groundwater impact areas showed no appreciable concentration changes (or no additional detections) throughout the period from 2000 to 2006. The study indicated that the perimeters of the groundwater impact areas - the plume boundaries - were nearly stationary, as was expected because of the attenuating effects of matrix diffusion, sorption, dispersion and degradation.

These conclusions are supported by the Site Conceptual Model (Cherry, McWhorter and Parker, 2007; Attachment 14), which states:

> *The results of long-term sampling of monitoring wells, the large contaminant mass diffused into the rock matrix and the behavior of contaminant plumes indicated by the DFN modeling have important implications concerning long-term groundwater monitoring. The first implication is that, because changes in contaminant distribution occur only slowly, monitoring wells need not be sampled frequently and some wells should be sampled less frequently than others. For example, wells showing substantial concentrations at or near contaminant input areas (i.e. source areas) should be sampled very infrequently (e.g. at 5 year intervals) and those near actual or suspected plume fronts should be sampled more frequently (e.g. annually or twice-annually). The concentration versus time trends for each monitoring well with a long record should be assessed for selection of future monitoring frequency. (Pg.23)*

Moreover, Boeing and NASA have identified many instances where DTSC has established monitoring frequencies less than quarterly based on information, data and analysis provided by the permit holders.

> Examples of recent Post-Closure monitoring programs approved by DTSC with monitoring frequencies less than a quarterly minimum include:
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> [*Examples presented by Boeing are not listed*]
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> These examples demonstrate the authority exercised by DTSC to determine appropriate site specific sampling frequencies under 22 CCR 66264.97(e)(12). The information, data and analysis submitted by Boeing and NASA here support a similar determination.
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> <u>DTSC's Boeing Team Briefing Argument – Comment II-B</u>
>
> DTSC determined that the procedures used to purge and sample the wells were not consistent at different locations and may not yield samples representative of the groundwater quality. It is not clear what results the new purge and sampling protocols will yield. Therefore, the comprehensive data referred to by Boeing may not be an appropriate baseline. The one-year of quarterly sampling required in the permit modification will assist in evaluating, for comparison purposes, the historical data set and/or to establish a new baseline.

<u>Response to Boeing Comment II-B</u>

Boeing's appeal generally alleges an erroneous finding of fact by the Department in the issuance of the permit modification. Boeing alleges that the quarterly sampling frequency required in the modification is excessive and that the Department has not considered all historical data.

California Code of Regulations, title 22, section 66271.18, subsection (a)(1), requires the petitioner to show that the condition in question is based upon a finding of fact or conclusion of law which is clearly erroneous. This is defined as the petitioner's burden of proof.

Petitioner references thousands of pages of attachments, states that the results have been provided to the Department, and concludes that this demonstrates the requirements are excessive. While the petitioner has succeeded in producing volumes

of evidence, the petitioner has not provided an explanation of the relevance of the material.

The petitioner attempts to make the appeal comment specific by referencing Page 23 of Attachment 14. An examination of this comment shows that it is a generic comment related to sampling frequency of monitoring wells. The comment concludes by stating that "*The concentration versus time trends for each monitoring well with a long record should be assessed for selection of future monitoring frequency.*" Thus, the reference to this specific comment recommends only that additional consideration of monitoring frequency is warranted. Without more, the petitioner has not shown that the monitoring frequency is excessive in light of the historical data such that that requirement is based upon a fact which is clearly erroneous or the frequency is beyond the scope of California Code of Regulations, title 22, division 4.5, chapter 14, article 6.

Petitioner's own brief concedes that the Department has the authority to determine appropriate site specific sampling frequencies under California Code of Regulations, title 22, section, 66264.97, subsection (e)(12). Petitioner references other decisions for other sites for which the Department has specified varying sampling frequencies, but has not provided evidence to demonstrate that environmental conditions at the Petitioner's site is the same as the other sites.

The record also reflects in a memorandum of March 4, 2003, prepared by Art Lennox of the Boeing Company, that the issues of a procedure for purging the wells and the need for statistical correlation of the sampling data were discussed. It is clear that Boeing contemplated that the monitoring program and WQSAP would be upgraded. While Boeing has alleged the sampling frequency is excessive and was developed without consideration of all of the historical data, Boeing has not pointed to how the selection of the monitoring frequency does not comply with the requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 6.

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Furthermore, the Permit Appeals Officer finds that one year of quarterly sampling required in the permit modification is reasonable to validate the historical data set and/or to establish a new baseline. Based upon the foregoing, Boeing Appeal Comment II-B is denied.

It is noted that interested party Bowling submitted a brief in support of additional monitoring.

Boeing Comment II-C

The Monitoring Network Includes Existing Wells Unrelated to the Regulated Units

Boeing Appeal Comment II-C

Boeing asserts that additional wells have been added to the monitoring network without a specific regulatory or technical basis. Boeing points to wells RD-49A, RD-49B and RD-49C as examples; while stating that these wells may have been impacted by releases from facilities and operations not related to the impoundments.

Boeing Briefing Argument - Comment II-C

> Boeing and NASA's permit modification application proposed monitoring a limited number of wells proximal to the Surface Impoundments (71 wells). The permit modification expanded the total to 129 wells, many at distance from the Surface Impoundments, without providing a technical or regulatory basis for the expansion. As stated in Boeing and NASA's Request for Review, the permit modifications require monitoring of wells that are not related to the Regulated Units.
>
> This is best illustrated by reviewing the monitoring networks required for the APTF-1, APTF-2, ABSP and DELTA Regulated Units. The attached Figures 1 and 2 [Attachments 18 and 19] present the locations of the wells that DTSC included in the monitoring network for the November 19, 2004 Class 2 Permit Modification Decisions with respect to the associated Regulated Units. As can been seen from the figures, many Evaluation Monitoring Wells are not proximal to the former impoundments. Thus, they provide no basis for monitoring past releases from the impoundments with which they are associated.

> In fact, some monitor wells are closer on a geographic, hydrologic, or hydrogeologic basis to other impoundments or facilities (Solid Waste Management Units [SWMUs] or Areas of Concern [AOCs]). Investigations and monitoring for these facilities are managed through other programs being conducted at SSFL, including the on-going RCRA Corrective Action program. Designating "Evaluation Monitoring Wells" far removed from the associated impoundments will not provide groundwater sampling and analytical data that can be used to evaluate groundwater impacts related to past releases from the subject impoundments.

> DTSC's Boeing Team Briefing Argument – Comment II-C

> The additional groundwater monitoring wells were selected to meet all the necessary requirements of California Code of Regulations, title 22, Article 6 and to best define the extent of the groundwater contaminant plumes associated with each unit.

> The comment refers specifically to wells RD-49A, B, and C as an example of wells not associated with the regulated unit. GSU has determined that these wells were affected by the operations at the ABSP. Boeing can make a demonstration that the releases from the ABSP have not affected the groundwater in the vicinity of the RD-49 well cluster for DTSC review. If Boeing can make the demonstration that the contaminants in the groundwater are not from ABSP, then the wells can be removed.

Response to Boeing Comment II-C

Boeing's appeal is based on a general allegation of an erroneous finding of fact by the Department in the issuance of the permit modification. Boeing alleges that inclusion of monitoring wells within the sampling network is a mistake of fact because the wells are not proximal to the surface impoundments.

California Code of Regulations, title 22, section 66271.18, subsection (a)(1), requires the petitioner to show that the condition in question is based upon a finding of fact or conclusion of law which is clearly erroneous. This is defined as the petitioner's burden of proof.

The petitioner attempts to make the appeal comment specific by referencing the monitoring networks required for the APTF-1, APTF-2, ABSP and DELTA Regulated Units. Boeing states:

> The attached Figures 1 and 2 [Attachments 18 and 19] present the locations of the wells that DTSC included in the monitoring network for the November 19, 2004 Class 2 Permit Modification Decisions with respect to the associated Regulated Units. As can been seen from the figures, many Evaluation Monitoring Wells are not proximal to the former impoundments. Thus, they provide no basis for monitoring past releases from the impoundments with which they are associated. This is followed by a statement that some of the wells are closer to other surface impoundments, without providing an explanation as to how the referenced wells are not influenced by the regulated units that are the subject of the permit.

The administrative record reflects in the Department's November 4, 2004 Letter of Determination for the permit:

> Groundwater, near the ABSP, occurs within two groundwater zones, separated by a northwest dipping, thinly bedded sandstone/shale beds (fine-grained unit). The extent of the perched zone is not defined. It appears that movement within the zone roughly mirrors topography. The lower zone (below the fine-grained unit) is referred to as the Chatsworth Formation groundwater bearing unit. For purposes of Article 6, this is the uppermost aquifer. Stratigraphic logs from RD-49C and corehole C-5 indicate the presence of additional thin shale beds at depth that do not correlate with the more massive fine-grained units mapped at the surface. Groundwater elevation and contaminant concentration differences present between RD49B and RD49C indicate that these thin shale beds have a pronounced effect on the hydrogeologic system in this area. The groundwater flow direction within the Chatsworth formation is assumed to be towards the north to northwest. However, high contamination concentrations in the groundwater samples collected from upgradient wells (RD-4 and WS-9) may be inconsistent with this interpretation.

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The Department's brief states the following:

> Boeing can make a demonstration that the releases from the ABSP have not affected the groundwater in the vicinity of the RD-49 well cluster for DTSC review. If Boeing can make the demonstration that the contaminants in the groundwater are not from ABSP, then the wells can be removed.

Because Boeing has not provided demonstration that the wells are not impacted by the regulated units, the Permit Appeals Officer denies Boeing Appeal Comment II- C.

It is noted that interested parties Bowling and Walsh also submitted briefs in support of adding additional wells to the monitoring network.

<u>Boeing Comment II-D</u>

The Monitoring Network Inappropriately Includes Wells Owned by Parties Other Than NASA or Boeing

<u>Boeing Appeal Comment II-D</u>

The Boeing appeal states the permit modification includes wells that are owned by others and not located on the permitted property.

<u>Boeing Briefing Argument - Comment II-D</u>

> Boeing and NASA's permit modification application proposed only wells owned or installed as part of facility investigations and excluded off-site "OS-wells." DTSC's permit modification included privately owned, off-site wells. As stated in the Boeing and NASA's Request for Review, the permit modification inappropriately includes wells not owned by NASA or Boeing, owned by parties other than NASA or Boeing, on property that NASA and Boeing do not own.
>
> Boeing and NASA are not responsible for the disposition of, cannot maintain the security of and cannot guarantee access to wells they do not own and that are on property they do not own. This includes private wells OS-17, OS-24 and OS-26 which are designated as "Evaluation

Monitoring Wells" for APTF-1 and APTF-2 in the November 19. 2004 Class 2 Permit Modification Decisions.

DTSC's Boeing Team Briefing Argument – Comment II-D

DTSC concurs that the permit should include only Boeing or NASA-owned wells. DTSC will assess the groundwater monitoring well network and require alternate wells as necessary.

Response to Boeing Comment II-D

The Boeing appeal brief provides specific examples of off-site wells not owned by Boeing and NASA that are included in the permit modification decision. These are identified as OS-17, OS-24 and OS-26. The DTSC appeal brief concurs with the Boeing appeal brief.

Therefore, the Permit Appeals Officer orders that the permit modifications be modified to delete wells OS-17, OS-24 and OS-26 from the groundwater monitoring well network.

It is noted that interested parties Bowling and Walsh submitted briefs in support of monitoring off-site wells.

Boeing Comments II-E (1) through II-E (6)

The Sampling and Analysis Requirements Include Constituents Not Associated with the Impoundments or Otherwise Inappropriate COCs

Boeing Appeal Comment II-E (1)

Boeing asserts that perchlorate was not identified as a chemical of concern used at the impoundments.

Boeing Briefing Argument - Comment II-E (1) Perchlorate

Boeing and NASA submitted documentation to DTSC prior to the November 19, 2004 Class 2 Permit Modification Decisions that perchlorate was not a chemical identified to have been discharged to the closed surface impoundments (Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan," 16 May 2003; Attachment 19 [*corrected reference*]).

Data developed through extensive groundwater sampling and analyses at the facility and provided to DTSC demonstrate that perchlorate has not been detected in groundwater samples collected in the vicinity of the former impoundments, with the exception of APTF and STL-IV (Letter from The Boeing Company to The California Environmental Protection Agency, Department of Toxic Substances Control, Region II, "*Completion of Perchlorate Characterization Work Plan Activities"*, December 12, 2008 [Attachment 20 (*corrected reference)*]. In the vicinity of former impoundments APTF and STL-IV the perchlorate detections were most likely not associated with impoundment activities. These findings were determined during the RCRA Corrective Action program currently underway at SSFL.

Additionally, Boeing has developed extensive groundwater monitoring programs for perchlorate at SSFL. These groundwater monitoring programs address those areas where detections of perchlorate were identified based on significant and geographically-broad past monitoring performed at and in the vicinity of SSFL. In light of these groundwater monitoring programs, the blanket inclusion of perchlorate as a constituent of concern in the Permit Modification for all impoundments is unwarranted.

<u>DTSC's Boeing Team Briefing Argument – Comment II-E (1) Perchlorate</u>

Perchlorate was used at the test stand in the igniters. Perchlorate should be considered a COC for the APTF surface impoundments, the Delta impoundment, and the Alfa-Bravo impoundment.

<u>Response to Boeing Comment II-E (1) Perchlorate</u>

The Boeing Appeal brief directs the reader to Attachment 19 and Attachment 20 as an indication that perchlorate should not be identified as a COC associated with the surface impoundments. Attachment 20 is simply a notice that Boeing will discontinue the current perchlorate monitoring program because it has not been approved by

DTSC, while at the same time acknowledging that perchlorate has been found in on-site wells. Attachment 19, vol.1 contains many references to perchlorate detected in wells in the vicinity of the surface impoundments that may be attributable to AOC's or SWMU's in the vicinity of the impoundments. Notably though, the supporting documentation supplied by Boeing does not rule out the impoundments as a source of perchlorate.

The DTSC, Bowling, and Walsh appeal brief arguments are simply assertions that perchlorate was used or found at and around the area of SSFL and do not provide references or specific examples of perchlorate use. The documents submitted by Boeing acknowledge that perchlorate was found in wells located in the vicinity of the impoundments, while at the same time not ruling out the impoundments as a source.

Boeing has not demonstrated that perchlorate should not be considered a COC for the APTF surface impoundments, the Delta impoundment, and the Alfa-Bravo impoundment. Therefore, the Permit Appeals Officer denies Boeing Appeal Comment II-E (1).

It is noted that interested parties Bowling and Walsh each submitted briefs in support of including perchlorate as chemical of concern for the regulated units.

Boeing Appeal Comment II-E (2)

Boeing asserts that phthalates were not used at the closed surface impoundments.

Boeing Briefing Argument II-E (2) Phthalates

> Boeing and NASA submitted documentation to DTSC prior to the November 19, 2004 Class 2 Permit Modification Decisions that phthalates were not a class of chemical identified to have been used at any of the nine closed surface impoundments (Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan", 16 May 2003). [Attachment 19] Although phthalates have been responded by laboratories as being detected in groundwater

> samples, data developed through extensive groundwater sampling and analyses at the facility and provided to DTSC demonstrate that phthalates are a laboratory contaminant (Haley & Aldrich, Inc., "Report on Annual Groundwater Monitoring, 2007", February 28, 2008). [Attachment 12] Data validation and rigorous quality assurance and quality control (including confirmation sampling) have determined that detections of phthalates in groundwater samples were associated with detections of the same compounds in sample blanks analyzed or were not reproducible by subsequent follow-up sampling. In view of the likelihood of laboratory contamination, the blanket inclusion of perchlorate as a constituent of concern in the Permit Modification Decisions for all impoundments is excessive, unnecessary and without technical basis.

<u>DTSC's Boeing Team Briefing Argument – Comment II-E (2) Phthalates</u>

> Phthalates have been detected in the groundwater samples collected at the regulated [units]. Although phthalates can be a common laboratory contaminant, QA/QC checks did not invalidate the positive results. Phthalates should remain as a COC.

<u>Response to Boeing Comment II-E (2)</u>

The DTSC appeal brief argues that phthalates have been detected in groundwater and that QA/QC (Quality Assurance/Quality Control) checks have not shown that the positive detection is a result of the material being present as a laboratory contaminant.

The materials supplied by Boeing as Attachment 12 reference a positive detection of phthalates while at the same time stating that there were two previous positive results that were attributable to the material presence as a laboratory contaminant. The rationale that is argued is that since there may have been a positive result as a laboratory contaminant, that every positive result should be treated as a result of the presence of the material as a laboratory contaminant.

The material supplied by Boeing shows that there is a positive detection in groundwater that has not been conclusively ruled out as a laboratory contaminant. For

the reasons outlined above, the Permit Appeals Officer denies Boeing Appeal Comment II-E (2).

Boeing Appeal Comment II-E (3)

The Boeing appeal asserts that sulfuric acid per se cannot be analyzed in water.

Boeing Briefing Argument - Comment II-E (3) Sulfuric Acid

> At the pH and Eh of normal groundwater identified at SSFL sulfuric acid would dissociate and be present as sulfate ions. The "Background" water quality analyses included in the November 19, 2004 Class 2 Permit Modification Decisions include sulfate and pH which will provide data for demonstrating possible releases of sulfuric acid.

DTSC's Boeing Team Briefing Argument – Comment II-E (3) Sulfuric Acid

> DTSC concurs.

Response to Boeing Comment II-E (3)

DTSC and Boeing concur that the requirement to analyze for sulfuric acid cannot be completed as stated. Therefore, the Permit Appeals Officer orders that the requirement to test for sulfuric acid be removed from the permit modifications.

Boeing Appeal Comment II-E (4)

Boeing asserts that DTSC intended to refer to napthene/naphthene and not naphthalene.

Boeing Briefing Argument - Comment II-E (4) - Napthene/Naphthene

> Which compound DTSC requires in the monitoring program requires clarification. Because Napthenes are a generic class of compounds, an

analytical method is not available that can determine its specific concentration in groundwater.

For reference, excerpts from definitions in the Merck Index for Napthene and Naphthalene are provided below:

> *Napthenes - "A term used in petroleum chemistry to denote certain saturated hydrocarbons, specifically five- and six-carbon cycloparaffins and their alkyl derivatives, found in crude petroleum. Sometimes used to include polycyclic members found in the higher-boiling fractions."*
>
> *Naphthalene - "Naphthalin; naphthene; tar camphor. C10H8; ..... ".*

Assuming that DTSC is referring to Napthalene, although Naphthalene was detected in groundwater samples collected from wells in the vicinity of the former ECL impoundment, the results could not be reproduced or confirmed (Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan", 16 May 2003; Attachment 19). Inclusion of Naphthalene in the constituents to be monitored for at the remaining former impoundments is inappropriate based on the data for those impoundments developed through extensive groundwater sampling and analyses at the facility which has been previously provided to DTSC (e.g., Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan," 16 May 2003, and Haley & Aldrich, Inc., "Report on Annual Groundwater Monitoring, 2007," February 28, 2008).

<u>DTSC's Boeing Team Briefing Argument – Comment II-E (4) Napthene/ Naphthene</u>

DTSC concurs. Analyses for TPH (in Monitoring Parameters), and Fuel Hydrocarbons and BTEX (in COCs) should be included where appropriate to serve as a surrogate for "napthene".

<u>Response to Boeing Comment II-E (4)</u>

Boeing stated that in the appeal that "we assume that DTSC means to refer to napthene/naphthene and not naphthalene." Boeing's appeal brief supplies additional

technical support to the distinction between the two compounds.

DTSC has concurred with Boeing's assumption and stated that "analyses for TPH (in Monitoring Parameters), and Fuel Hydrocarbons and BTEX (in COCs) should be included where appropriate to serve as a surrogate for "napthene".

Therefore, the Permit Appeals Officer orders that the erroneous reference to naphthalene be stricken from the permit modifications.

It is noted that interested party Bowling submitted a brief regarding PAHs (*polycyclic aromatic hydrocarbons*) discovered at SSFL.

Boeing Appeal Comment II-E (5)

Boeing asserts that there is not an approved method for analysis of hydrazine.

Boeing Briefing Argument - Comment II-E (5) Hydrazine

> Hydrazine and hydrazine compounds should be removed from the analytical suite because of the lack of appropriate, certified methodologies. A certified analytical method cannot be identified for hydrazine.
>
> The August 28, 2008 letter from Boeing to DTSC entitled *"Hydrazine, Unsymmetrical Dimethyl Hydrazine and Mono Methyl Hydrazine Soil Analysis, Santa Susana Field Laboratory, Ventura County, California" [Attachment 21]* indicates that soil analyses for hydrazines were rejected due to quality control concerns. The letter states:
>
> There are no promulgated EPA or ASTM methods for hydrazine, UDMH or MMH. California does not certify a method for hydrazine compounds and there are only a limited number of laboratories who conduct the analysis under proprietary methodologies. Boeing's contractors have contacted a number of these analytical laboratories and, to date, have been unable to identify a laboratory that we are confident would be successful at analyzing SSFL soil samples for hydrazine, UDMH and MMH without significant improvements in the analytical technology.
>
> Recent discussions with analytical laboratories indicate this also applies to groundwater analyses for hydrazine compounds.

Moreover, the PCP modification already includes analysis for NDMA and formaldehyde, considered to be breakdown products of hydrazine, in groundwater samples. Thus, the inclusion of hydrazine is without technical basis and repetitive.

DTSC's Boeing Team Briefing Argument – Comment II-E (5) Hydrazine

EPA Method 8315M is an appropriate and accepted testing method for hydrazine and should be included in a revised water quality sampling and analysis plan.

Walsh Briefing Argument – Comment II-E (5) Hydrazine

It is inappropriate to reduce the constituents of concern by excluding MDMH, Hydrazine and other exotic fuels that we have seen documentation of their use at the site. Many of the well documented rocket programs employed at the site included these COC's such as the Peace Keeper PLF, Lance Missile, Static Pulse Engine, Advanced Experimental Thrust Program, MP51 Turbo Pump, and the RS 14 Minuteman among others.

Bowling Briefing Argument – Comment II-E (5) Hydrazine

Hydrazine tanks are found throughout the site and leakage and employee error could have had an impact.

Response to Boeing Comment II-E (5)

The Boeing argument is simple in that it states that there is not an approved laboratory testing method for hydrazine. The DTSC argument simply states that EPA method 8315M is an appropriate and accepted testing method for hydrazine analysis. The Walsh and Bowling brief comments simply allege that hydrazine has been found in the area. None of the briefs supply technical argument in support or opposition on whether EPA method 8315M is an appropriate method. In fact, the permit condition in

question refers to a "*DTSC approved GC-method or ASTM D1385 (2001)*" as the required analysis for hydrazine.

The Permit Appeals Officer finds no evidence in the record that EPA method 8315M is an approved method for testing hydrazine. However, the regulations do not require that only EPA approved methods must be used. Furthermore, the ASTM D1385, allowed under the permit Modification, is an available method. Boeing has not met its burden to show a finding of fact or conclusion of law which is clearly erroneous. Therefore, to the extent that the analysis requirements are for hydrazine in water, the Permit Appeals Officer denies Boeing Appeal Comment II-E (5).

It is noted that interested parties Bowling and Walsh submitted briefs in support of hydrazine testing.

Boeing Appeal Comment II-E (6)

Boeing asserts that there is not an approved method for analysis of sodium azide.

Boeing Briefing Argument - Comment II-E (6) Sodium Azide

> Sodium Azide is highly soluble and present in water as ionic sodium and an azide group. As a result Sodium azide per se, cannot be determined in water. Sodium is currently monitored for but there is currently no EPA-certified method for analysis of the azide ion. Thus, sodium azide should be removed from the analytical suite because of the lack of appropriate, certified methodologies.

DTSC's Boeing Team Briefing Argument – Comment II-E (6) Sodium Azide

DTSC concurs.

Response to Boeing Comment II-E (6)

Boeing and DTSC concur that there is not a proper approved testing method for

sodium azide and that sodium azide per se cannot be analyzed in water. Therefore, the Permit Appeals Officer orders that references to testing for sodium azide in the analytical suite be removed from the permit modifications.

Boeing Comments II-F (1) and (2)

The Modification Imposes Improper Analytical Methods

Boeing Appeal Comments II-F (1) and (2)

Boeing asserts that the permit modifications do not specify the correct analytical methods for 1,3-dinitrobenzene and hydrazine, MMH, UDMH.

Boeing Briefing Argument - Comment II-F(1) and (2)

> As stated in Boeing and NASA's Request for Review, the permit modifications require analyses for constituents to be performed using improper analytical methods. These improper analytical methods should be removed from the permit modification:
>
> > (1) 1,3-Dinitrobenzene using 8260B: EPA SW 846 indicates that the approved method for analysis of 1,3-dinitrobenzene is 8270C.
> >
> > (2) Hydrazine, MMH, UDMH: There is currently no promulgated EPA or ASTM method for the analysis of hydrazines. The State of California does not certify any method for analysis of hydrazine compounds in groundwater. For the reasons stated above, hydrazine and hydrazine compounds should be removed from the analytical suite because of the lack of appropriate, certified methodologies.

DTSC's Boeing Team Briefing Argument – Comment II-F (1) and (2)

> (1) 1,3-Dinitrobenzene should be analyzed using EPA Method 8270C.
>
> (2) Hydrazine, MMH, and UDMH can be tested using EPA Method 8315M and should be incorporated into the water quality sampling and analysis plan.

Response to Boeing Comment II-F(1) and (2)

The Boeing appeal, the Boeing appeal brief and the DTSC appeal brief all concur that the correct analytical method for 1,3-dinitrobenzene is EPA Method 8270C. Therefore, the Permit Appeals Officer orders that the test method for 1,3-dinitrobenzene in Part V, Table 4 of the permits be changed to EPA Method 8270C.

For Hydrazine, please see Response to Boeing Comment II-E (5).

Boeing Comment II-G

The Modification Citation for Concentration Limits is Incorrect

Boeing Appeal Comment II-G

Boeing asserts that an incorrect regulatory citation was used in the permit.

Boeing Briefing Argument - Comment II-G

As stated in Boeing and NASA's Request for Review, the permit modifications contain the apparently inappropriate citation to 22 CCR 66284.97(3)(11)(B). The citation 22 CCR 66284.97(3)(11)(B) could not be identified. The citation that appears to be appropriate is 22 CCR 66264.97(e)(11)(B) which states:

> *"(11) Upon approval of the procedures for determining background values proposed pursuant to subsection (e)(10) of this section, the Department shall specify in the facility permit one of the following for each constituent of concern and for each monitoring parameter:*
> *(B) a detailed description of the procedure to be used by the operator for establishing and updating the background value as proposed pursuant to subsection (e)(10)(B) of this section."*

///

///

///

DTSC's Boeing Team Briefing Argument – Comment II-G

DTSC concurs.

Response to Comment II-G

The Boeing appeal, the Boeing appeal brief and the DTSC appeal brief all concur that an incorrect regulatory citation was used. The correct citation is 22 CCR 66264.97(e)(11)(B). Therefore, the Permit Appeals Officer orders that citations of 22 CCR 66264.97(3)(11)(B) in Part V, Table 4 be changed to 22 CCR 66264.97(e)(11)(B).

Boeing Comments III-A, III-B, and III-C

The Modification Contains Several Factual Errors or Omissions

Boeing Appeal Comment III-A

Boeing asserts that HAR-24 was improperly rejected as a background well based upon technical information supplied to the Department that the well is hydraulically upgradient.

Boeing Briefing Argument - Comment III-A

> Boeing and NASA's permit modification application included selection of well HAR-24 as a Background Well at APTF. As stated in Boeing and NASA's Request for Review, the permit modifications inappropriately reject HAR-24 as a Background Well at APTF, without technical or regulatory basis.
>
> Boeing and NASA submitted documentation to DTSC prior to the November 19, 2004 Class 2 Permit Modification Decisions that HAR-24 was located upgradient of the former APTF impoundments (Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan", 16 May 2003). This documentation contains figures indicating the direction of Chatsworth Formation groundwater movement at APTF. Thus, HAR-24 should be identified as a Background Well at APTF.

DTSC's Boeing Team Briefing Argument – Comment III-A

> DTSC rejected HAR-24 as a background well for the APTF surface impoundments due to its close proximity to the impoundment and the occurrence of radial groundwater flow from the impoundment would result in the well being impacted by the operation of the impoundment and not representative of background groundwater condition.

Response to Boeing Comment III-A

Comments III-A and III-B are identical in nature and will be responded to later. See Response to Boeing Comments III-A and III-B.

Boeing Appeal Comment III-B

Boeing asserts that HAR-11 was improperly rejected as a background well based upon technical information supplied to the Department that the well is hydraulically upgradient.

Boeing Briefing Argument - Comment III-B

> Boeing and NASA's permit modification application included selection of well HAR-11 as a Background Well at APTF. As stated in Boeing and NASA's Request for Review, the permit modifications inappropriately reject HAR-11 as a Background Well at ABSP, without regulatory or technical basis.
>
> Boeing and NASA submitted documentation to DTSC prior to the November 19, 2004 Class 2 Permit Modification Decisions that HAR-11 was located upgradient of the former ABSP impoundment with respect to near surface groundwater flow and surface water drainage (Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan," 16 May 2003). This documentation contains figures indicating the direction of Near Surface groundwater movement at ABSP. Thus, HAR-11 should be identified as a Background Well at ABSP.

///

DTSC's Boeing Team Briefing Argument – Comment III-B

> DTSC rejected HAR-11 as a background well for the ABSP surface impoundments due to its close proximity to the impoundment and the occurrence of radial groundwater flow from the impoundment would result in the well being impacted by the operation of the impoundment and not representative of background groundwater condition.

Response to Boeing Comments III-A and III-B

Boeing's appeal centers on an allegation of an erroneous finding of fact by DTSC in the rejection of HAR-24 and HAR-11 as background wells. Boeing alleges that exclusion of HAR-11 and HAR-24 as background wells is a mistake of fact because the wells are upgradient of the surface impoundments.

California Code of Regulations, title 22, section 66271.18, subsection (a)(1), requires the petitioner to show that the condition in question is based upon a finding of fact or conclusion of law which is clearly erroneous. This is defined as the petitioner's burden of proof.

Boeing refers to an 836 page attachment without pointing out the specific basis that HAR-24 and HAR 11 are upgradient and not impacted by radial groundwater flow. However, the documentation was reviewed and the cross section figures do not clearly show that the wells would not be affected by radial groundwater movement. The attachment is dated May 16, 2003.

A review of the administrative record indicates that DTSC made the following recommendation in September 2004:

> Background wells – HAR-24 is the proposed background monitoring well for both APTF-1 and APTF-2. However, groundwater samples collected from HAR-24 indicate potential effects from the surface impoundments. An alternative well must be selected and constructed *"at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that represent quality of groundwater that has not been affected by a release form the regulated unit"* (CCR 66264.97 (b)(1)(A))

> Shallow wells **HAR-11** and PZ-070 are proposed as background wells for ABSP. The GSU was unable to locate any analytical data from PZ-070 and the data reviewed for **HAR-11** indicates impacts from the ABSP. Although limited data has been collected from PZ-059, sufficient water is present for quarterly sampling and there are no apparent effects from ABSP. The GSU, therefore, recommends that PZ-059 be designated as the background monitoring well for perched zone. If, however, PZ-059, is unable to yield sufficient water for sampling, an additional well appropriately located and constructed will be needed. …

Based upon the fact that the wells are currently impacted, the Permit Appeals Officer denies Boeing Appeal Comments III-A and III-B.

Interested party Bowling submitted a brief, however the Bowling argument did not contain relevant information considered germane to this comment.

<u>Boeing Appeal Comment IIIC</u>

Boeing asserts that ES-33 is identified in error as an Evaluation Monitoring well at STL-IV-1.

<u>Boeing Briefing Argument – Comment III-C</u>

> Boeing and NASA's permit modification application included selection or well HAR-33 as an Evaluation Monitoring Well at STL-IV-1. As stated in Boeing and NASA's Request for Review, the permit modifications misidentify ES-33 as an Evaluation Monitoring Program Well at STL-IV-1, without regulatory or technical basis.
>
> ES-33 is not a monitor well number used for the SSFL project. Rather, Boeing proposed HAR-33 as an Evaluation Monitoring Well for STL-IV-1. For reference, the figures in Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan," 16 May 2003, indicate the location or monitor well HAR-33. Thus, HAR-33 should be identified as an Evaluation Monitoring Program Well at STL-IV-1, and ES-33 should be removed.

///

DTSC's Boeing Team Briefing Argument – Comment III-C

Acknowledged.

Response to Boeing Comment III-C

The Boeing appeal, the Boeing appeal brief, and the DTSC appeal brief each concur that ES-33 is not a designation that is used in the SSFL evaluation well monitoring system and that HAR-33 should have been identified as an evaluation monitoring program well at STL-IV-1. Therefore the Permit Appeals Officer orders that in the permit modification, HAR-33 be designated as an evaluation monitoring program well at STL-IV-1, and that the incorrect reference to ES-33 be removed.

Boeing Comment III-D

The Modification Contains Several Factual Errors or Omissions

Boeing Appeal Comment III-D

Boeing asserts that the location identifiers SPA-1 and SPA-2 were transposed.

Boeing Briefing Argument - Comment III-D

> As stated in NASA and Boeing's Request for Review, the Permit Modification Decisions references transpose the former impoundments SPA-I and SPA-2. The former SPA-1 impoundment is located approximately 400 feet west or the former SPA-2 impoundment. For reference, the figures in Haley & Aldrich, Inc., "Supplemental Data Summary for the Water Quality Sampling and Analysis Plan," 16 May 2003 indicate the correct locations of SPA-1 and SPA-2. Thus, the correct locations of SPA-1 and SPA-2 should be identified.

DTSC's Boeing Team Briefing Argument – Comment III-D

Acknowledged.

Response to Boeing Comment III-D

The Boeing appeal, the Boeing appeal brief, and the DTSC appeal brief concur that the references SPA-1 and SPA-2 were transposed. Therefore the Permit Appeals Officer orders that this typographical error be corrected.

Chandler Comment 2a

Inappropriate and Deceptive DTSC Policy of Changes to the Groundwater Sampling Frequency for Point of Compliance, Background, Detection, Evaluation, and Corrective Action Monitoring and Response Programs

Chandler Comment 2a

Petitioner Chandler asserts the Department has not correctly applied the sampling frequencies specified by California Code of Regulations, title 22, sections 66264.97(e)(12)(B)(1) and (2) respectively for groundwater.

Boeing Briefing Argument - Comment 2a

With respect to Petitioner Comment 2a regarding minimum sampling frequency, Boeing and NASA respectfully submit that the Class 2 Permit Modification Decisions appropriately address incorporate, and comply with DTSC regulations.

DTSC regulations addressing sample points within Detection and Evaluation Monitoring Programs (CCR Title 22, §66264.98 and CCR Title 22, §66264.99, respectively) stipulate sampling for Monitoring Parameters pursuant to 22 CCR §6624.97 (e)(12).

For reference, the relevant excerpts of CCR Title 22, §66264.97 (c) (12) state:

> *(12) For each constituent of concern and monitoring parameter listed in the facility permit, the owner or operator shall propose, for approval by the Department, the sampling methods to be used to establish background values and the sampling methods to be used for monitoring pursuant to this article. Upon final approval by the*

> *Department, sampling methods consistent with the following shall be specified in the facility permit.*
>
> *(A) The number and kinds of samples collected shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that:*
> *1. for a detection monitoring program, a release from the regulated unit will be detected;*
> *2. for an evaluation monitoring program, changes in water quality due to a release from the regulated unit will be recognized; …*
>
> *(B) … The sampling method shall include …*
> *1. a sequence of at least four samples collected at least semiannually from each monitoring point and each background monitoring point and statistical analysis performed at least semi-annually…. <u>For groundwater, the sampling frequency and the interval between successive sampling events shall be based upon the rate of groundwater flow, and upon any variation in groundwater flow rate and direction…</u>*

This regulation thus establishes a general requirement for semi-annual monitoring of both COCs and Monitoring parameters, although it is expressly stated that the prescribed frequency of groundwater monitoring may be modified based on hydrologic conditions. It is not stated in the text that changes to the frequency of groundwater monitoring based on hydrologic conditions may be instituted only to increase to the frequency of sampling, as implied by Petitioner. The regulations grant DTSC authority to determine a proper groundwater sampling interval.

CCR Title 22, §66264.98, which prescribes Detection Program sampling requirements, establishes a different sampling frequency for COCs in subsection (g):

> *In addition to monitoring for the monitoring parameters specified under subsection (e) of this section, the owner or operator shall periodically monitor for all constituents of concern specified in the facility permit and determine whether there is statistically significant evidence of a release for any constituent of concern using the statistical procedure specified pursuant to section 66264.97(e)(7). The Department shall specify in the facility permit the*

> *frequencies and locations for monitoring pursuant to this subsection after considering the degree of certainty associated with the expected or demonstrated correlation between values for monitoring parameters and values for the constituents of concern. Monitoring pursuant to this subsection shall be conducted at least every five years.*

CCR Title 22, §66264.99, which prescribes Evaluation Program sampling requirements, also uses the term "periodically" to describe the sampling frequency for COCs, and indicates that sampling frequency will be determined "after considering the degree of certainty associated with the demonstrated correlation between values for monitoring parameters and values for the constituents of concern" (subsection (e)(4).

CCR Title 22, §66264.99, subsections (e)(4) and (e)(5) state:

> *(4) in addition to monitoring for the monitoring parameters specified pursuant to subsection (e)(2) of this section, the owner or operator shall periodically monitor for all constituents of concern specified in the facility permit and evaluate changes in water quality due to the release from the regulated unit. The Department shall specify the frequencies for monitoring pursuant to this subsection after considering the degree of certainty associated with the demonstrated correlation between values for monitoring parameters and values for the constituents of concern;*
>
> *(5) the owner or operator shall conduct water quality monitoring for each monitoring parameter and each constituent of concern in accordance with section 66264.97(e)(12).*

Subsection (e)(4), specifically dealing with sampling frequency of COCs, neither prescribes a set minimum sampling interval or invokes section 66264.97(e)(12)(B), but rather indicates that the Department will set sampling frequency based on site conditions. In contrast, although the following subsection, (e)(5), generally invokes section 66264.97(e)(12), it does not specifically address sampling intervals. The previous subsection, (e)(3), describing sampling frequency for Monitoring Parameters, does specifically invoke section 66264 .97(e)(12). The clear intent of the regulations in subsection (e)(4) is for DTSC to establish the sampling frequency for COCs by the criteria described therein, rather than by invoking the general guidelines described in subsection 66264.97(e)(12).

The text of Title 22 indicates a distinction between the regulatory requirements for determining the sampling frequency for Monitoring Parameters and those for COCs. In either case the regulations clearly allow the Department to determine based on site conditions, the frequency of groundwater monitoring.

Sampling for Appendix IX constituents is also prescribed using different language than the general guidelines in section 66264.97(e)(12)(B). Subsections 66264.98(k)(2), 66264.98(n)(2) and 66264.99(e)(6) specifically require sampling at detection wells once following evidence of a release, and annual sampling at all monitoring points *in the affected media* thereafter.

DTSC has exercised its authority under the regulations cited above to establish permit monitoring frequency based on site conditions on a case-by-case basis to ensure the monitoring activities provide adequate information. As identified above, recent DTSC decisions regarding the following sites provide examples of DTSC exercising its regulatory authority to determine an appropriate sampling interval and number of sampling points under the various prescribed monitoring programs.

- The Blue Hill Disposal Facility (EPA ID No. CAT08000606), Fresno County, California, September 7, 2007 [Attachment 15];
- The Conoco-Phillips Los Angeles Refinery Carson Plant (EPA ID No. CAD980881676), Los Angeles County, California, October 25, 2007 [Attachment 16]: and,
- United Technologies Corporation, Pratt & Witney (EPA ID No. CAD001705235), Santa Clara County, California, November 30, 2006 [Attachment 17].

Petitioner fails to establish that the sampling schedule in question represents an arbitrary reduction in sampling frequency, or a circumvention of the statute or regulations. As demonstrated above, the regulations allow DTSC to determine groundwater sampling intervals based on hydrologic or water quality conditions. Here, DTSC has at its disposal several decades of monitoring data representing the accumulated results of extensive investigations by the owners, DTSC and other interested parties. DTSC thus has the authority under Title 22 and ample existing technical data to determine an appropriate monitoring schedule based on site-specific conditions.

<u>DTSC's Boeing Team Briefing Argument – Comment 2a</u>

> California Code of Regulations, title 22, section 66264.97, subdivision (e)(12)(B)(1) relating to semi-annual sampling for surface water, soil-pore liquid monitoring and groundwater monitoring is ambiguous and susceptible to different meanings. DTSC has the discretion to interpret the regulation to require less than semi-annual groundwater sampling frequency when it has determined there is a technical and scientific basis for doing so. In this case, DTSC has made a determination that, under certain circumstances, less than semi-annual sampling may be appropriate.

<u>Response to Chandler Comment 2a</u>

Petitioner Chandler's Comment 2a centers on an allegation of an erroneous conclusion of law by the Department in the issuance of the permit modification. Petitioner Chandler alleges that, the sampling frequency specified in California Code of Regulations, title 22, section 66264.97, subdivision (e)(12)(B)(1) is not properly applied (see Part V, Table 7 of the permit modifications).

California Code of Regulations, title 22, section 66271.18, subsection (a)(1), requires the petitioner to show that the condition in question is based upon a finding of fact or conclusion of law which is clearly erroneous. This is defined as the petitioner's burden of proof.

Petitioner Chandler has not provided an interpretation of the conclusion of law he asserts to be erroneous, but has simply restated the regulatory section and asserted that the Department is applying it incorrectly.

As the Department's brief points out, the California Code of Regulations, title 22, section 66264.97, subdivision (e)(12)(B)(1) relating to semi-annual sampling for surface water, soil-pore liquid monitoring and groundwater monitoring is ambiguous and susceptible to different meanings. DTSC has the discretion to interpret the regulation to require less than semi-annual groundwater sampling frequency when it has determined there is a technical and scientific basis for doing so. In this case, DTSC has made a determination that, under certain circumstances, less than semi-annual sampling may be appropriate.

The Permit Appeals Officer notes that the Department has consistently interpreted the California Code of Regulations, title 22, section 66264.97, subdivision (e)(12)(B)(1) as containing groundwater specific requirements based upon a reasonable interpretation of the following language:

> "For groundwater, the sampling frequency and the interval between successive sampling events shall be based upon the rate of groundwater flow, and upon any variance in groundwater flow rate and direction."

This interpretation is consistent with the federal requirements of the Code of Federal Regulations, title 40, section 264.97 upon which the California regulations are based. The federal regulations are clear that groundwater sampling should be conducted at least semi-annually. The Department's final interpretation should "be adhered to unless clearly erroneous or unauthorized." (*General Transportation Corp. v. State Bd. of Equalization* (1987) 193 Cal. App. 3d 1175, 1182).

Based upon the fact that the petitioner has not shown the Department's interpretation of the regulation to be a clearly erroneous conclusion of law, the Permit Appeals Officer denies Chandler Appeal Comment 2a.

<u>Chandler Comment 5a</u>

Appendix IX Twists

<u>Chandler Comment 5a</u>

Petitioner Chandler alleges that the scope of the term "affected medium" is not properly applied. Petitioner Chandler's appeal asserts that monitoring wells which have not shown contamination are located in the "affected medium" simply because they are called monitoring wells.

<u>Boeing Briefing Argument - Comment 5a</u>

With respect to Petitioner Comment 5a regarding DTSC application of

the regulatory term "affected medium" as used in 22 CCR 66264.99(e)(6), Boeing and NASA submit that the Permit Modification Decisions appropriately address incorporate and comply with the regulations.

DTSC's application of the regulatory term "affected medium" to the Permit Modification Decisions is realistic, enforceable and protective of both the resource and the public, and should be retained as a basis for sound decision making. In contrast, Petitioner proposes an unbounded interpretation of the phrase “affected medium” that is not supported by the statute, supported by other determinations, or technically sound.

The proposal by Petitioner, that if the "affected medium" is groundwater then that means “all groundwater,” creates a situation in which any limit on the scope of sampling can be questioned as an artificial restriction on the statute. Under this reasoning, any and all wells in existence anywhere could theoretically be designated as monitoring points so long as the well intersects the water table. Such an overly-broad interpretation would create a regulatory scheme that is unworkable and divorced from technical evaluation, and would impose unreasonable and unsupported requirements upon permitted facilities. It is the position of Boeing and NASA that this interpretation is without support from either groundwater science or regulatory precedent.

The statute does not intend for the mandated sampling programs to encompass “all groundwater.” Reasonable and resource-protective determination of the appropriate scope of a sampling program requires criteria by which to evaluate the extent of potential impacts related to the regulated activities. The “all groundwater” interpretation of the regulation fails utterly in this regard, providing no guidance whatsoever to regulators as to the appropriate scope of a groundwater monitoring program.

Boeing does not wish to suggest that the Department lacks the statutory authority to compel a comprehensive monitoring program. Indeed, the monitoring program proposed by the Department is comprehensive. Rather, Boeing supports DTSC in establishing a technically defensible standard by which the scope of an appropriate and effective monitoring program can be determined.

Moreover, the interpretation that the term “affected medium” refers to that portion of the medium that has been affected by a past release from the regulated unit has been employed as basis for decision-making in other DTSC decisions. For example, in the “Statement of Basis for the proposed Post-Closure Permit United Technologies Corporation, Pratt &

Whitney" issued September 28, 2006 [included in Attachment 17], DTSC declined to designate all wells on the site as part of the monitoring program, indicating that, based on site conditions, the number of wells was excessive for the purposes of the monitoring program. Similar reasoning also applies here.

DTSC's Boeing Team Briefing Argument – Comment 5a

Petitioner incorrectly applies the term "affected medium." The term "affected medium" is defined as "any medium (e.g., groundwater, surface water or the unsaturated zone) that has been affected by a release from a regulated unit." (Cal. Code Regs., tit. 22, §66260.10.) As used in the following regulations, the term necessarily applies to those portions of the medium affected by operation of the RCRA unit. The term "affected medium" is used in Section 66264.98 - Detection Monitoring Program as follows:

66264.98(k)(1) For that regulated unit, immediately sample all monitoring points in the affected medium (groundwater, surface water or the unsatu[r]ated zone) and determine the concentration of all constituents of concern.

66264.98(k)(2) For that regulated unit, immediately sample all monitoring points in the affected medium (groundwater, surface water or the unsaturated zone) and determine whether constituents in the list of Appendix IX to chapter 14 are present, and if so, in what concentration(s).

66264.98(k)(5)(A) an identification of the concentration of each constituent of concern at each monitoring point as determined during the most recent sampling events, and an identification of the concentration of each Appendix IX constituent at each monitoring point for the regulated unit in the affected medium (groundwater, surface water or the unsaturated zone);

In addition, California Code of Regulations, title 22, section 66264.99, pertaining to the Evaluation Monitoring Program, provides: "the owner or operator shall analyze samples from all monitoring points in the affected medium (groundwater, surface water or the unsaturated zone) for all constituents contained in Appendix IX to chapter 14 at least annually to determine whether additional hazardous constituents are present and, if so, at what concentration(s)."

> The above-cited regulations provide the mechanism to further characterize a release at the RCRA unit. They are designed to ensure that the release is characterized and sampled for all known and potentially unknown chemicals. Under these conditions, sampling monitoring points within the area known to be impacted is straightforward and logical. However, sampling at monitoring points that are outside of the area impacted by the operation of the RCRA unit (i.e. non-impacted ground water), as asserted by the petitioner, would not provide any useful data, be arbitrary, nonsensical and inconsistent with the regulatory definitions. DTSC reasserts that the definition of "affected medium" is intended to include only the areas impacted by the operations of the RCRA unit.

Response to Chandler Comment 5a

The Permit Appeals Officer finds that petitioner incorrectly applies the term "affected medium." The term "affected medium" is defined as "any medium (e.g., groundwater, surface water or the unsaturated zone) that has been affected by a release from a regulated unit." (Cal. Code Regs., tit. 22, §66260.10.) Absent a statutory or regulatory definition of the term "affected", the common definition of affected means "acted upon, influenced or changed." As Boeing points out in their briefing argument, wells may be located such that they intersect a particular groundwater table, but groundwater may be shown to have not been "acted upon, influenced or changed" because the lateral or vertical extent of a potential release has not been shown to have reached a specific location though monitoring at any particular individual well.

Based upon Petitioner's incorrect application of the term "affected", the Permit Appeals Officer denies Chandler Appeal Comment 5a.

Chandler Comments 6a and 6b

Failure to Adequately Address Environmental Media

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Chandler Comments 6a and 6b

Petitioner Chandler asserts that conditions related to vadose zone monitoring, soil pore liquid, soil pore gas, or surface water are improperly stated or omitted.

Boeing Briefing Argument - Comment 6a

With respect to Petitioner Comment 6a regarding DTSC neglecting media other than groundwater, Boeing and NASA submit that the Class 2 Permit Modification Decisions appropriately address, incorporate and comply with the regulations.

CCR Title 22, Ch.14, Section 66264.97(d)(5) states in part:

> *Unsaturated zone monitoring is required at all new regulated units unless the owner or opera/or demonstrates to the satisfaction of the Department that no method for unsaturated zone monitoring can provide any indication of a release from that regulated unit.*

Petitioner's comment fails to consider this regulation and ignores site specific conditions. The standard established in this regulation clearly applies in this case.

The Regulated Units have been inactive and waste disposal mechanisms removed for over two decades. The former impoundments were backfilled, capped and drainage controls emplaced to prevent infiltration or erosion by surface waters. Contaminated soils were removed during closure of the impoundments. Drainage and infiltration controls are inspected annually in accordance with the Post-Closure Permit.

These factors should address Petitioner's comment, because groundwater cannot be "threatened by continuing discharge" from the Regulated Units. There is no utility and no need for a vadose-zone "early warning" systems as called for by Petitioner because further releases from the Regulated Units are not possible and thus, "no method for unsaturated zone monitoring can provide any indication of a release from that regulated unit."

Further, the Regulated Units are currently in "Evaluation Monitoring" to determine the extent and nature of past releases from the Units, pursuant to CCR Title 22, Ch. 14, Section 66264.99. The Regulated Units are currently monitored under the appropriate regulations

addressing sites with past releases. Thus, the Regulated Units are neither “new”, nor subject to continuing discharge. Current site conditions therefore do not require either surface water monitoring or vadose zone monitoring for indications of a release from the regulated unit, nor contaminant limit determinations for these media.

Moreover, the condition of vadose-zone soils, soil vapor and surface water across the SSFL site have been assessed under an RCRA RFI investigation, results of which are presented in RCRA Facility Investigation Report, Surficial Media Operable Unit, Santa Susana Field Laboratory, Ventura County, California (MWH, 2004; Attachment 23). Further characterization of the SSFL site under the RCRA RFI program is currently ongoing. The condition of surface waters discharging from the SSFL site is currently monitored pursuant to the conditions of NPDES Permit No. CAOOO1309.

Finally, Petitioner has been granted standing only to address changes to the draft permit made after the close of public comment. The permit conditions did not contain soil gas monitoring in the draft permit. The addition of new monitoring programs not included in the draft permit are outside the scope of this appeal.

<u>Boeing Briefing Argument - Comment 6b</u>

With respect to Petitioner Comment 6B regarding DTSC avoiding pore liquid and pore gas monitoring in fractured bedrock, Boeing and NASA submit that the Class 2 Permit Modification Decisions appropriately address, incorporate and comply with the regulations.

As indicated above, section 66264.97 (d)(5) states in part:

> *Unsaturated zone monitoring is required at all new regulated units unless the Owner or operator demonstrates to the satisfaction of the Department that no method for unsaturated zone monitoring can provide any indication of a release from that regulated Unit.*

Boeing and NASA comments above regarding the current inactive status of the regulated unit hold true here as well. The regulated units were removed, backfilled and capped over twenty year ago. There is therefore no possibility of continued release from the regulated unit. An unsaturated-zone monitoring system can therefore serve no purpose for prevention or advance warning of discharges.

Cherry, McWhorter and Parker (2007), in the document *Overview of the Site Conceptual Model for the Migration and Fate of Contaminant in Groundwater at the Santa Susana Field Laboratory* [Attachment 14], concluded that there is limited potential for further migration of existing contaminant in subsurface media:

> *Thus, the TCE mass is expected to remain relatively close to the locations where the TCE entered the system. Other dissolved chemicals are subject to the same diffusion processes; hence their migration is also greatly slowed. (p.2)*

Given the lack of continuing discharge from the Regulated Units and the stability of existing impact to subsurface media, there is no utility for an unsaturated-zone monitoring system in Chatsworth Formation bedrock, and thus no regulatory requirement for such a system under Title 22, subsection 66264.97 (d)(5).

Moreover, as also indicated above, Petitioner has been granted standing only to address changes to the draft permit made after the close of public comment. Addition of new monitoring programs not included in the draft permit are outside the scope of this appeal process.

<u>DTSC's Boeing Team Briefing Argument – Comments 6a and 6b</u>

DTSC disagrees with Chandler Comment 6a and 6b based on the following:

Petitioner indicates that the purpose of vadose zone monitoring is as an early warning system to the potential impacts to groundwater monitoring from the regulated unit. DTSC conceptually agrees with this comment; however, it should be clear that each of the nine RCRA surface impoundments at the Facility is in Evaluation Groundwater Monitoring, therefore impacts to groundwater have already occurred and or are being monitored making the "early warning system" argument irrelevant and vadose zone monitoring unnecessary.

Petitioner states "Damning as well is the failure of DTSC to provide the soil-pore liquid and surface water protection specifications, etc. required by the regulations for these media." Each of the nine surface impoundments, with the exception of the Delta Impoundment, was excavated to bedrock and capped with an engineered soil or concrete

cap. At the Delta impoundment, the saturated zone was encountered before the depth of the bedrock could be reached. Therefore, there is no vadose-zone soil-pore water to monitor and the engineered caps that are present at each unit prevent any further impacts to surface water by diverting runoff around the impoundments.

In regards to pore liquid and pore gas monitoring in fractured bedrock, DTSC is not aware of any device that can effectively monitoring pore liquid or pore gas in the geologic conditions present at the Facility. However, it should be noted that characterization activities, including rock coring and pore liquid collection, are being conducted at the site to provide spatial data (but not temporal data) on the contaminant plumes at the Facility. Again, it should be noted that since ground water has been impacted beneath each regulated unit, monitoring pore liquid and pore gas to detect and prevent discharge of contaminants to groundwater is not needed.

Walsh Briefing Argument – Comment 6a

We support this comment and reiterate its importance in that soil pore gas is one of our biggest challenges and it is not looked at adequately. This is a primary exposure pathway to several species and also emphasizes the importance that the contaminated rock will recontaminate the water it is in contact with, as it moves through. Vadose Zone monitoring is crucial to properly understanding the current conditions of the site and the groundwater below.

Porter- Cologne Act, it states that a discharger has no right to allow discharge or threat of discharge into ground water from its waste units. Detection monitoring in ground water is not an acceptable substitute for vadose zone monitoring which may lead to prevention or amelioration of discharge into ground water. We concur with petition that a pore liquid monitoring response program (MRP) be included in the permit for the unsaturated fractured rock and that a pore gas program be added in accordance with article 17.

Response to Chandler Comments 6a and 6b

Petitioner Chandler's argument is that vadose zone monitoring should have been included in the permit modifications, and that the Department did not correctly apply the regulation.

The briefs submitted in argument against Comment 6a and 6b point out that California Code of Regulations, title 22, section 66264.97(d)(5) states in part:

> *Unsaturated zone monitoring is required at all new regulated units unless the Owner or operator demonstrates to the satisfaction of the Department that no method for unsaturated zone monitoring can provide any indication of a release from that regulated Unit.*

Petitioner Chandler stated in his appeal:

> Specifically, if ground water has not been impacted but is threatened by continuing waste discharge, it would be prudent to have instituted vadose monitoring to determine if contaminants in the landfill are in fact migrating towards ground water.

Boeing, NASA and DTSC point out the current inactive status of the regulated units. The waste and contaminated soils from the regulated units were removed and these units were then backfilled and capped over twenty years ago. There is therefore no possibility of continued release from the regulated unit. An unsaturated-zone monitoring system can therefore serve no purpose for prevention or advance warning of discharges.

Because there is not a possibility of a continuing release from the regulated units, the purpose of the vadose zone monitoring system as an advanced warning system has no utility. Therefore, the Permit Appeals Officer denies Petitioner Chandler's Comments 6a and 6b.

<u>Additional Briefer Arguments Submitted</u>

Arguments for Boeing's Comment IV ("*DTSC Should Adopt Federal Rules for Groundwater Monitoring at Post Closure/Corrective Action Sites")* and Petitioner Chandler's Comment 8 ("*Financial Responsibility for New Post-Closure Care*

Conditions and Corrective Action in the Permit Modifications") were presented by briefers William Bowling and Christina Walsh, respectively. As stated in DTSC's "*Order Partially Granting Petition for Review and Denial of Review,"* Docket Number PAT-FY08/09-02 and dated November 4, 2008, the Permit Appeals Officer ruled that the request to grant review of these issues was denied and therefore briefers comments relative to Comment IV and Comment 8 are not considered relevant to this order.

V. ORDER

For the reasons set forth above, the Permit Appeals Officer finds that Petitioner Boeing's appeal comments II-D, II-E(3), II-E(4), II-E(6), II-F(1), II-G, III-C, and III-D are valid and that the affected permit conditions shall be amended, clarified or corrected as noted in this Order. However, the Permit Appeals Officer finds that Petitioner Boeing's appeal comments II-A through II-C, II-E(1), II-E(2), II-E(5), II-F(2), III-A, and III-B are not substantiated. Therefore, Boeing Comments II-A through II-C, II-E(1), II-E(2), II-E(5), II-F(2), III-A, and III-B are denied.

The Permit Appeals Officer also finds that Petitioner Chandler's appeal comments 2a, 5a, 6a, and 6b are not substantiated. Therefore, Chandler Comments 2a, 5a, 6a, and 6b are denied.

The stay of the Permit decision is hereby rescinded, and the Permit Modification decisions shall be final and effective as of this date, as modified herein.

DATED: April 27, 2009

//original signed by//

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Mohinder S. Sandhu, P.E.
Permit Appeals Officer
Department of Toxic Substances Control