

# WELCOME

## Draft Gap Analysis Report Meeting

June 26, 2008



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# Thomas Johnson

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## DOE Project Director



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# Meeting Objectives

- Solicit comments on the Data Gap Analysis
- Provide initial responses to questions
- Continue discussions regarding Area IV sampling needs

# Agenda

- Welcome – *Thomas Johnson*
- Agenda and Process – *Ann Marshall*
- DOE Overview – *Stephie Jennings*
- Overview of Data Gap Process – *John Wondolleck*
  - Initial Responses to Comments
- Comments from Stakeholders on Draft Gap Analysis Report - *Participants*
- Question and Answer Session with Data Gap Investigators – *Data Gap Team*
- Wrap Up and What's Next – *Stephie Jennings*

# Stephie Jennings

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DOE NEPA Document Manager



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# Why We're Here



# Environmental Impact Statement for Remediation of Area IV of SSFL

- Objective:
  - To define path forward for cleanup in Area IV that is publicly acceptable, protective of the environment and adjacent communities, and implementable
- What we are doing for the EIS is unique

# Data Gap Analysis Purpose

- Identify data necessary to evaluate risk-based cleanup alternatives in a manner consistent with Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) and National Environmental Policy Act (NEPA)
- Provide independent review of existing data adequacy
- Determine additional data needs for Area IV
- Address stakeholder comments on the 2003 Environmental Assessment

# Draft Gap Analysis Report

- What did we miss, such as historical chemical or radiological use areas?
- Were there additional spills, releases, or disposal areas that may not be in the site database?
- What is missing in terms of characterization of Area IV?
- What else should we consider when we design the sampling and analysis plan?

# John Wondolleck

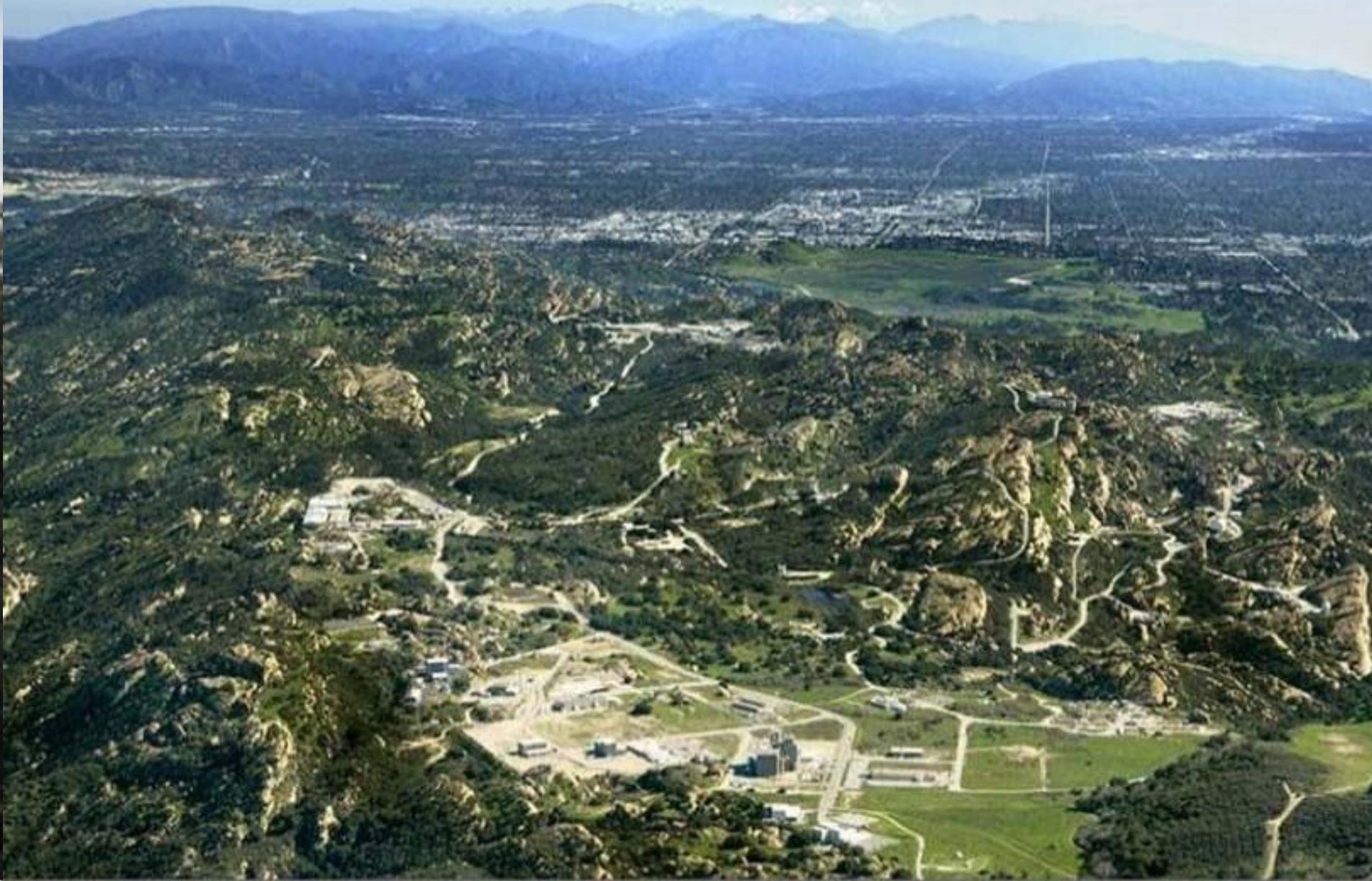
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CDM

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**SAIC**<sup>®</sup>  
*From Science to Solutions*

# *Draft Gap Analysis Report Recap*



# Data Gap Philosophy

- Total independent review of data and reports
- No presumptive evaluations of thoroughness of existing data
- All aspects of prior investigations questioned
- Conclusions based on professional qualifications and experience of data gap scientists

# Data Gap Steps

1. Developed databases
2. Reviewed numerous reports to identify initial Contaminants of Interest (COI)
3. Developed conceptual site models
4. Used Data Quality Objective (DQO) process to establish data review criteria and goals

# Data Gap Steps

5. Developed screening criteria – background, human health, ecological risk
6. Screened data to remove “non-detects” when laboratory analysis was not sensitive enough
7. Screened data to identify areas of contamination
8. Plotted data to illustrate distribution of screened results

# Data Gap Steps

9. Conducted statistical analyses to determine number of samples required
10. Determined numbers of samples needed to define contamination extent
11. Compared available data with the data needed to complete characterization – which identified the data gap

*Data Gap =  
Data Needed – Valid Existing Data*

# Soil – Radionuclides

- Identified need to sample at approximately 600 locations (approx. 1,800 samples)
- Recommended sampling at surface, near surface, subsurface, and bedrock
- Recommended performing gamma walkover survey for all accessible locations of Area IV, adjacent impacted areas, and drainages leading from Area IV

# Soil – Chemicals

- Identified need to sample at approximately 1,120 locations (approx. 2,180 samples)
  - Approximately 150 locations are within areas not investigated in prior studies
- Recommended sampling for surface and subsurface soil, and bedrock
  - Portion of samples may be collected under DTSC-required Resource Conservation and Recovery Act Investigation

# Buildings

- Recommended buildings with inadequate prior surveys be investigated for presence of radioactivity
- Recommended surface measurements (gross alpha and beta) for 7 of 24 remaining buildings

# Air

- Determined that monitoring data collected during historical operations are not needed for a future risk assessment
- Recommended evaluating the air pathway risk using recent building and soil data
- Historical air data will be considered as part of the EIS analyses

# Surface Water

- National Pollutant Discharge Elimination System (NPDES) data were found to be adequate for human health risk assessment
- Recommended collection of data lacking for internal Area IV drainage sediment
- Recommended gamma walkover surveys of drainages

# Groundwater

- Recommended installation of new wells at 6 locations
- Recommended investigation of groundwater quality at 8 additional locations
- Recommended collection of additional hydrogeologic data to evaluate remedial alternatives and to delineate contamination extent and movement

# Ecological Risk

- Recommended collection of plant and animal tissue for uptake evaluation
- Recommended sampling surface and subsurface soils, sediments, and surface water (including ponds)
- Determined soil data to be collected for human health can also be used for ecological risk assessment

# Initial Responses to Comments



# Soil Background

- Comment: Background data should be collected only from locations unaffected by SSFL activities
- Response:
  - DOE agrees
  - DOE is working with EPA and DTSC to develop methodology to conduct sampling

# Screening Levels

- Comment: Clarify how, why Screening Levels were used
- Response:
  - EPA defines use of Screening Levels
  - How Screening Levels were developed and used for the Data Gap Analysis

# Screening Levels

(Continuation of Response)

- Developed levels for chemicals
- Used EPA's levels for radionuclides
- Used the term "Rural Residential" to describe the two sets of Screening Levels
- Also compared to "Agricultural" PRGs for additional data needs

# Gamma Walkover Survey

- Comment: Gamma walkover survey cannot identify all radioactive material contamination
- Response:
  - DOE agrees
  - Gamma walkover survey is one of several investigative activities proposed for Area IV
  - Data Gap Analysis recommended soil sampling (alpha, beta, gamma) to complete necessary radionuclide understanding

# Area IV Relationship to Area I Burn Pit

- Comment: Wastes generated in Area IV and outside of SSFL (e.g., De Soto facility) were disposed of in Area I Burn Pit
- Response:
  - History and use of Area I Burn Pit are being investigated by DTSC
  - DTSC's proposed approach, including sampling for radiological materials, is under public review

# National Institute for Occupational Safety and Health (NIOSH) Reports

- Comment: Data Gap Investigators need to consider NIOSH reports for SSFL
- Response:
  - Reports were reviewed for data related to radionuclides in buildings
  - Reports were helpful for focusing the building investigations

# Aerial Gamma Flyover Surveys

- Comment: Data Gap Investigators need to consider the Aerial Gamma Flyover Survey reports
- Response:
  - Surveys confirmed locations of radioactive material use, but the flyover surveys were not sensitive enough to identify gamma emissions away from facilities

# Sampling of Mountain Tops

- Comment: Will you sample mountain tops?
- Response:
  - Scientists reviewing site characteristics recommend investigating bases of cliffs and drainage sediments
    - Strong winds in this region are eroding mountain tops and depositing material at the base of cliffs
    - Most material eventually transported in drainage sediments

# Sampling for Mixtures

- Comment: How will synergistic effects be determined?
- Response:
  - Samples collected under this study will be analyzed for all Area IV radionuclides, chemicals and metals
    - Metals will be reported for all mixtures
    - Analytical methods separate individual radionuclides and chemicals for identification purposes
    - Laboratory will be required to identify any analyte observed not on the list of contaminants of interest
    - The risk assessment will evaluate all contaminants of interest and mixtures

# Documents That Should be Reviewed

- Comment: Several additional documents were suggested for review
- Response:
  - Historical accident documents
  - RCRA Facility Assessment Technical Enforcement Document
  - DOE Tiger Team Report
  - NPDES reports
  - Environmental monitoring reports

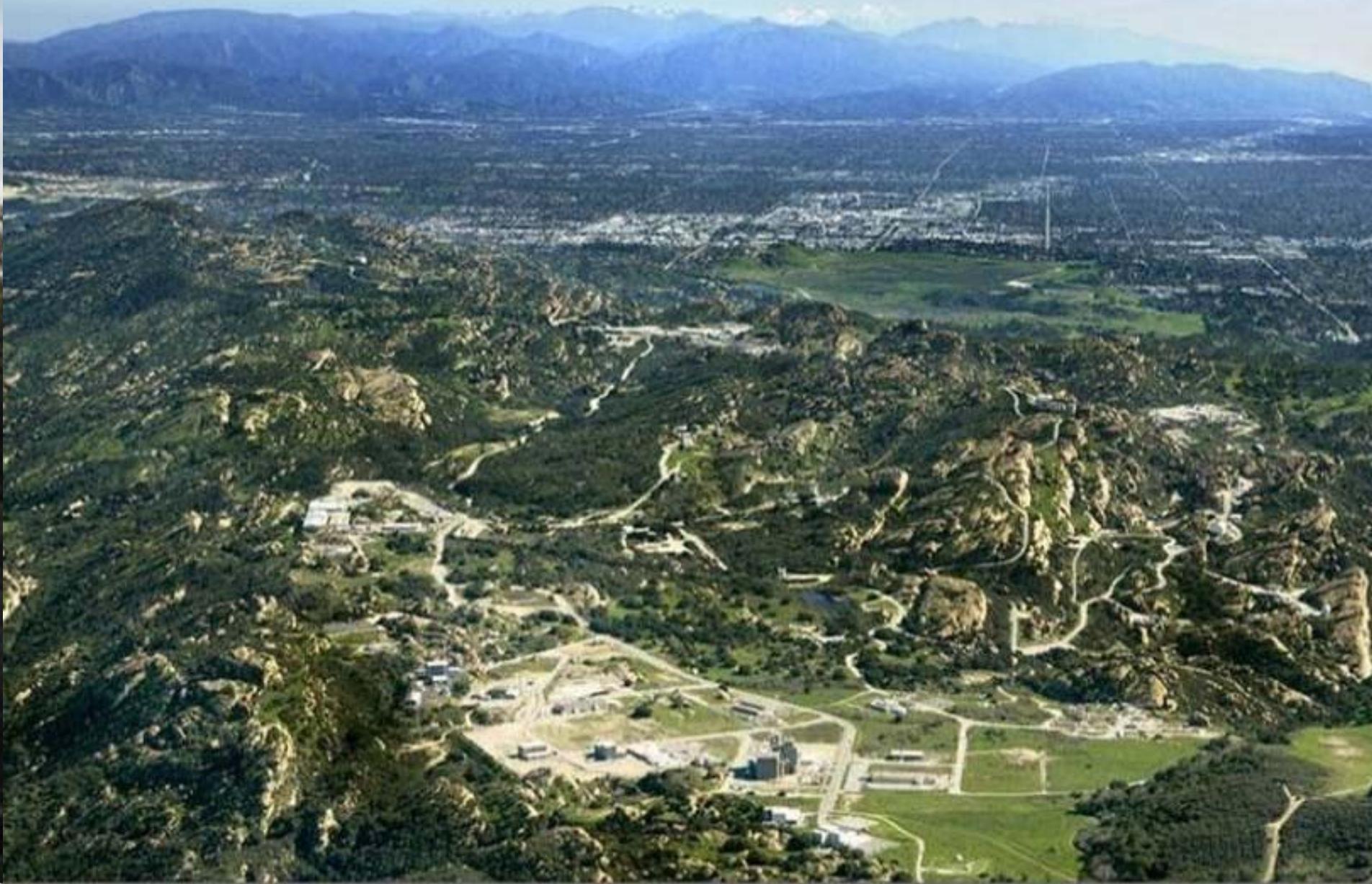
# Interviews of Former Employees

- Comment: Will you interview former employees for their knowledge of site activities?
- Response:
  - Assistance needed to identify former employees with information

# Cancer Risk Definition

- Comment: What is meant by a  $10^{-6}$  cancer risk?
- Response:
  - $10^{-6}$  means a one in one million chance of contracting cancer
  - That means if a population of one million persons was exposed to a certain contaminant at a specific concentration, there could be one additional cancer over the existing cancer rate

# Comment Period



# Comment Period

Focus on Data Gap Approach, Findings, and Recommendations

- Are there other documents and/or reports?
- Are there additional events?
- Are there people with knowledge of Area IV that we can contact?
- What additional specific details should we investigate?
- What else do we need to know in designing the sampling and analysis plan?

**INTERMISSION**

# Technical Investigators

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CDM and SAIC



# Questions on Data Gap Findings



# Stephie Jennings

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DOE NEPA Document Manager

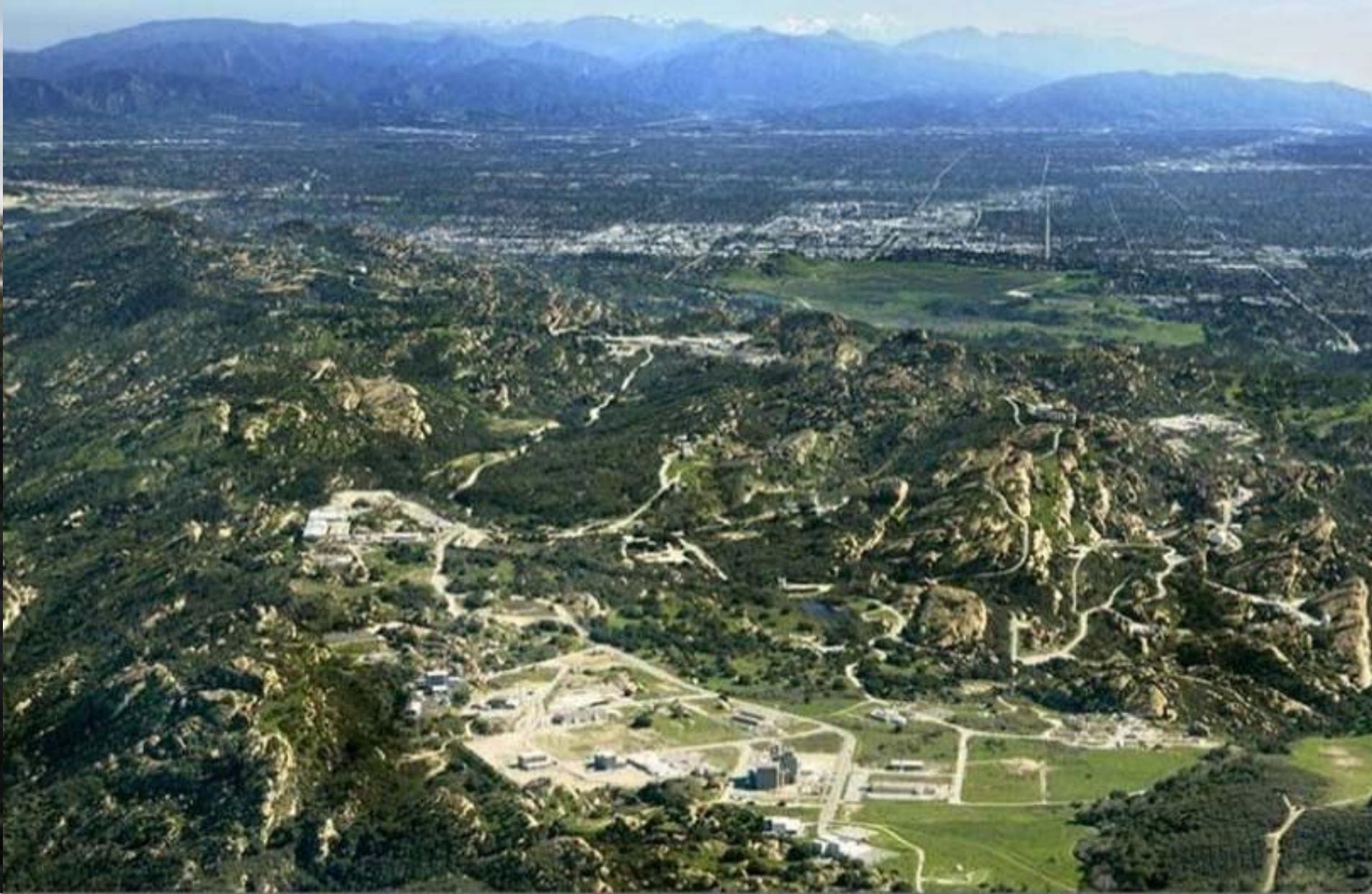


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# Wrap Up and What's Next



# Upcoming Scoping Meetings

July 22, 2008

Grand Vista Hotel, Simi Valley  
2:00-4:00 pm and 6:30-9:30 pm

July 23, 2008

World Vision Church, Northridge, CA  
2:00-4:00 pm and 6:30-9:30 pm

July 24, 2008

Sacramento Central Library  
2:00-4:00 pm and 6:30-9:30 pm



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# Thank You for Your Participation

**Mr. Thomas Johnson**  
Federal Project Director

**Ms. Stephanie Jennings**  
NEPA Document Manager

[thomas.johnson@emcbc.doe.gov](mailto:thomas.johnson@emcbc.doe.gov)

[stephanie.jennings@emcbc.doe.gov](mailto:stephanie.jennings@emcbc.doe.gov)

## ETEC Web Site

<http://www.etec.energy.gov>