

Agreements in Principle

between

**The State of California
and
The U.S. Department of Energy**

and the

**State of California
and
The National Aeronautics and Space
Administration**

September 2010

A Path Forward

- Resolves disagreements over interpretations and implementation of SB 990 (Kuehl, 2007)
- Takes advantage of U.S.EPA's ongoing site survey work *and* U.S.EPA's expertise on radiological contamination
- Fast forwards the process to where it will likely end up (years from now)
- Provides certainty to all and eliminates concerns about the unknown outcome of "process"

A Brief History

- 2007

Legislature passed and Governor signed SB 990

- LOI (Boeing) and LOI (Community)

- 2008

Discussing implementation details

- 2009

Negotiating new agreement

A Brief History (continued)

- November 2009
 - Boeing tolling agreement
 - DTSC agreement draft based on community comments
 - Boeing lawsuit

A Brief History (continued)

- February 2010

High level conversations

- Cal/EPA Secretary Adams, DOE Secretary Chu, NASA Administrator Bolden
- Desire to resolve differences and find path forward

- March 2010

DOE offers to clean to background

A Brief History (continued)

- March 2010 – August 2010

Negotiate details of “cleanup to background”

- What, who, how
- Enforceability
- Resolution of existing lawsuit

- September 2010

NASA agrees to same approach

A Brief History (continued)

- September 2010 – October 2010

Public Process

- Gain public understanding of the new approach
- Hear public comments
- Identify any areas needing further clarity or adjustments

- October 2010

Finalize and sign

EPA field sampling work to begin 10/14

What will the agreements do?

**After cleanup, the site will be
restored to the way it was
before it was polluted
("cleanup to background")**

Seems so simple.....

First, a little context....

SB 990

- What it says:
 - Requires cleanup standards for radioactive and chemical contaminants based on “rural residential” land use assumptions
 - Clarifies that risk due to both radioactive and chemical contaminants must be added
 - Requires uses of the State Superfund process

SB 990

- Real limitations that aren't explicit in law
 - Cannot clean up what is below “background”
 - Cannot clean up what you cannot measure

What is “background?”

- The amount of chemicals and radionuclides that exist in the environment either because they are naturally there (part of the rocks and soil), they are from natural processes (e.g. fires), or they are from man-made activities not related to activities conducted at the site (e.g., fallout)

What is “background?”

- Nature is a system – it’s not “uniform”
 - If it was, one sample would be enough
 - Because it’s not, we need to take a number of samples and make assumptions
- We use site specific background studies to establish local background levels
- Not the “average” but the 95% upper confidence level

Measuring Contaminants

- Limits on what and how much can be measured
 - Instruments
 - Available laboratory methods
 - Costs
 - Availability of labs
 - Time needed to analyze samples

Cesium 137

0.21 pCi/g

95% UCL background (McLaren Hart)

2/10,000 excess cancer risk

0.12 pCi/g

Upper limit SB 990

1/10,000 excess cancer risk

0.087 pCi/g

Mean background (McLaren Hart)

0.0012 pCi/g

**EPA Preliminary Remedial Goal
for Rural Residential (SB 990)**

1/1,000,000 excess cancer risk

Strontium 90



0.13 pCi/g
0.11 pCi/g

Upper limit SB 990
95% UCL background (McLaren Hart)

1/10,000 excess cancer risk
1/10,000 excess cancer risk

0.052 pCi/g

Mean background (McLaren Hart)

0.00139 pCi/g

EPA Preliminary Remedial Goal
for Rural Residential (SB 990)

1/1,000,000 excess cancer risk

What will the agreements do?

Apply to

- **DOE:** Area IV and Northern Buffer Zone
- **NASA:** Area II and NASA's portion of Area I
- **Boeing:** No (not yet)

DOE Agreement in Principle

- Overview of DOE's framework first
- Come back and describe differences with NASA

Radioactive Contaminants

- Clean up radioactive contaminants to local background concentrations.

Possible exceptions

- Protected species or habitat
- Exceptions subject to DTSC's oversight and approval:
 - Detection limits exceed the local background concentration
 - Native American artifacts
 - Other unforeseen circumstances to the extent that the cleanup cannot be achieved through technologically feasible measures

Radionuclide Background Levels

- US EPA to determine local background levels and detection limits for radionuclides (and provide lookup table)

Chemical Contaminants

- Clean up chemical contaminants to local background concentrations

Possible Exceptions

- Protected species or habitat
- Subject to DTSC's oversight and approval:
 - Detection limits exceed the local background concentration
 - Native American artifacts
 - Other unforeseen circumstances to the extent that the cleanup cannot be achieved through technologically feasible measures

Chemical Background Levels

- DTSC to determine local background levels and detection limits for chemicals (and provide lookup table)

Confirmation Protocol

- Residual concentrations “not to exceed” local background concentrations
- No averaging
- A separate document that describes procedures

Cleanup to local background means

- Removal of soils contaminated above local background levels
 - No contaminated soils to be “left in place”
 - No contaminated soils to be buried or land filled on-site

Backfill/replacement soils

- Backfill or fill dirt not to exceed local background level
 - Onsite soils may be used
 - Offsite soils may be used, provided they have been verified

Disposal of contaminated soils

- Soils contaminated with radioactive contaminants
 - Licensed low-level radioactive waste (LLRW) disposal site or an authorized LLRW disposal facility at a DOE site
- Soils contaminated with chemical contaminants
 - Hazardous wastes to licensed Class 1 hazardous waste disposal facilities only
 - Non-hazardous waste to licensed Class 2 or subtitle D compliant Class 3 disposal facilities only
- Mixed wastes (with radioactive and hazardous constituents)
 - Licensed mixed waste disposal site or an authorized mixed waste disposal facility at a DOE site

US EPA Role

- Continue with radiologic background study and Area IV and Northern Buffer survey
- Provide local background values for radionuclides
- Provide “split” samples to DTSC during its Area IV soil sampling
- Conduct post cleanup radiation assessment to verify cleanup
- Verify that backfill/replacement soils do not exceed local background

Data Gaps

- Radioactive contaminants
 - Discontinue RFI documents
 - Replaced with new workplans and reports reflecting new data
 - U.S.EPA efforts used to determine where onsite levels of radioactive contaminants exceed local background

Data Gaps

- Chemical contaminants
 - Discontinue RFI documents – Replaced with new workplans and reports reflecting new data
 - DTSC to analyze “splits” of U.S.EPA’s samples from Area IV and Northern Buffer Zone survey work
 - DTSC to determine where additional chemical contamination is suspected – more data if needed
 - DTSC to determine where onsite levels exceed local background.

Risk Assessments

- Risk assessments will not be required
 - Approach in framework makes them unnecessary

Contaminant Migration

- DOE to clean up any contiguous offsite contamination that originates from within Area IV

Cleanup Workplan(s)

- DOE to develop a “remedial action implementation workplan” (cleanup plan) after studies complete
 - Workplans to include elements such as soils management and site restoration plans
 - Workplan to be available for public review and comment
 - Workplan subject to DTSC review and approval

Anticipated Completion

- Scheduled completion of *soils cleanup* remains as 2017

Groundwater

- Investigation and remediation of groundwater to be separately addressed in final agreements

Regulatory Oversight

- Characterization and cleanup (for both chemicals and radiologic contaminants) of both soils and groundwater are subject to DTSC approval
- U.S.EPA available in a vital technical consultative/advisory role

Enforceability

- Final agreement between DOE and California to be legally binding and enforceable
- Ensures the cleanup obligations in the agreement(s) will be met

Funding

- DTSC work to be fully funded by DOE.

Public Process

- DTSC to receive public input regarding the agreement(s)
 - Includes a formal comment period
 - Includes public meetings/discussions.
- Remedial action implementation work plan(s)
 - Public review and comment prior to DTSC approval

NASA Agreement in Principle

Primary Differences

- NASA to focus primarily on chemical contaminants
 - If radiological contamination is discovered, sampling and disposal plans developed as needed
- No role for US EPA (no ongoing survey work)

Primary Differences

- Investigation/chemical data
 - Continue with investigation activities underway
 - DTSC to identify data gaps and direct data gathering

Primary Differences

- Confirmation sampling protocol to be developed (similar to DOE's)
- DTSC's efforts to be funded by NASA

Next Steps

- Receive public input
- Respond to comments and/or revise AIPs (or incorporate into agreements) as appropriate
- Finalize agreements to make them binding
- Implement
- Continue to work with Boeing to address remainder of the site (Areas I, III and Southern Buffer)

More information

- Comments by email to: ssfl@dtsc.ca.gov by October 1, 2010
- Copies of the AIPs and confirmation protocol are located on-line at http://www.dtsc.ca.gov/SiteCleanup/Santa_Susana_Field_Lab/SSFL-Agreements.cfm