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# 2008 Solar Annual Review Meeting

**Session: Trough Systems**

**Company or Organization: Alcoa, Inc.**

**Funding Opportunity: Concentrating Solar Power**



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# Relationship to Solar Program Goals

To support the DOE Solar Energy Technologies Program (SETP) goals of lowering the cost of major trough system components and establishing U.S.-based manufacturing capabilities for these components.

## Project overview:

a) Project description:

System solution approach focusing on design and optimization of the supporting structure, coupled with reflector surface material and coating technology.

b) Project objective:

Demonstrate life cycle cost savings and subsequent cost of energy (LCOE) reductions are achievable through the design optimization of aluminum-intensive collectors (supporting structure and reflector).

c) Major FY08 Activities:

- 1) Reflector Surface Optimization
- 2) System Ideation and Design
- 3) Concept Down-Selection
- 4) Phase II planning – Prototype Construction & Validation





# Relationship to Solar Program Goals

## Project Overview - Continued

### d) Planned Milestones – Phase 1

- 1) Technical Kick-off with DLR & DOE 3/3/08
- 2) Initial Brainstorming Complete 4/7/08
- 3) Initial Concept Ranking Complete 5/19/08
- 4) Reflective Surface Down-Selection Complete 7/30/08
- 5) Concept Down-select / Validation Complete 8/8/08
- 6) Phase II Concept(s) Selected 8/27/08
- 7) Phase 1 Complete 11/26/08

Phase	Phase Description	Duration
I	Concept Feasibility	9 months
II	Technology Design & Prototype Development	15 months
III	Field Validation Plan	12 months





# Relationship to Solar Program Goals

## Project Overview - Continued

e) Budget Table – Project Costs per Phase

	<b>Phase Description</b>	<b>Total Cost</b>	<b>Phase Start</b>	<b>Phase Stop</b>
Phase 1	Concept Feasibility	\$ 584,751	3/1/2008	11/30/2008
Phase 2	Technology Design and Prototype Development	\$ 1,596,907	12/1/2208	2/28/2010
Phase 3	Field Validation	\$ 1,476,012	3/1/2010	1/30/2011

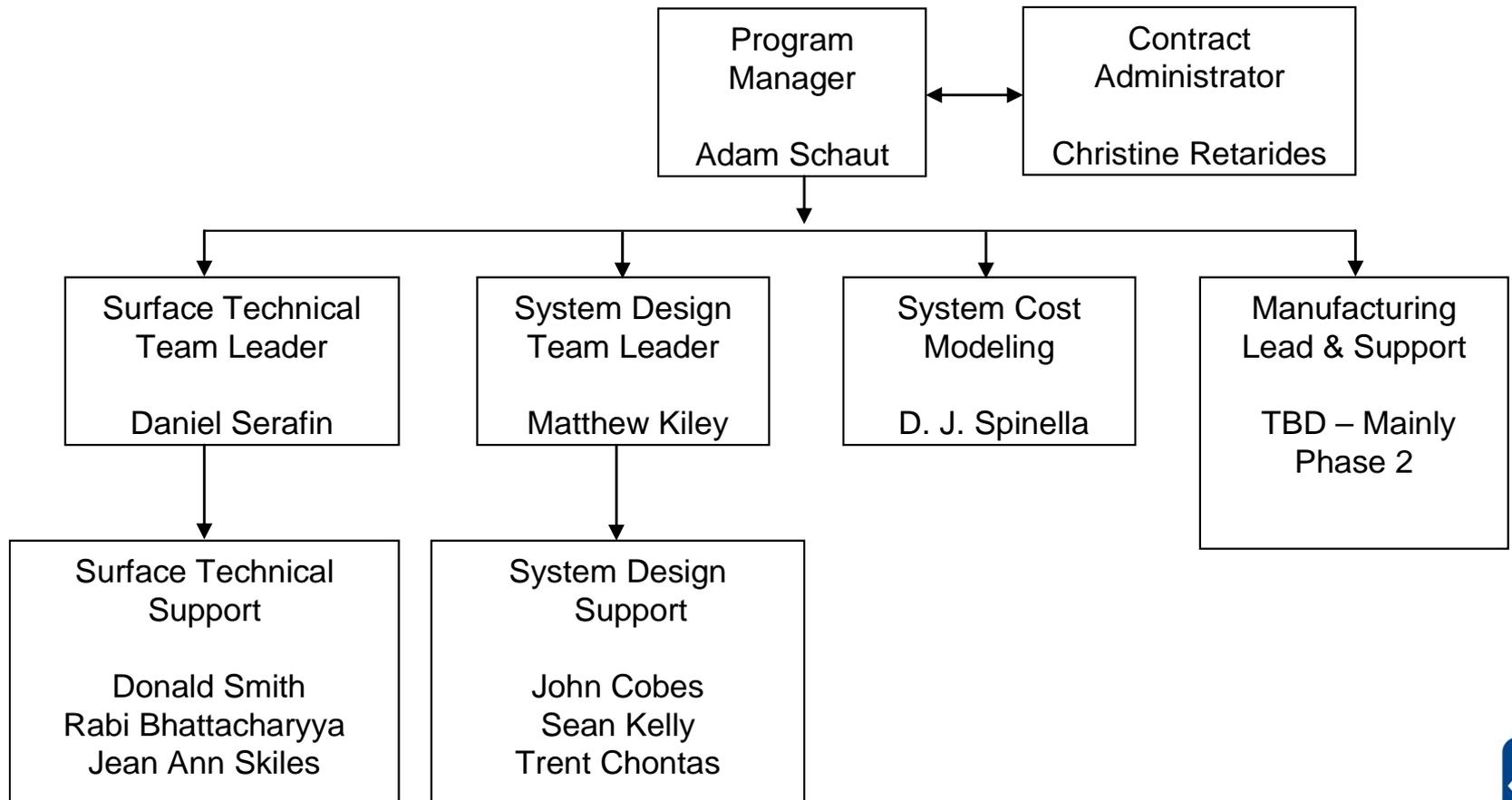
***Total \$ 3,657,670***



# Relationship to Solar Program Goals

## Project Overview - Continued

e) Personnel contributing to the project





# FY08 Progress Report

## 1. Current Accomplishments:

- a) Phase 1 Technical Kick-off Meeting Completed
- b) Initial Concept Ideation Started
- c) Continued Reflective Surface Development Efforts
- d) Contract Award (**Pending**)

## 2. Issues:

- a) None

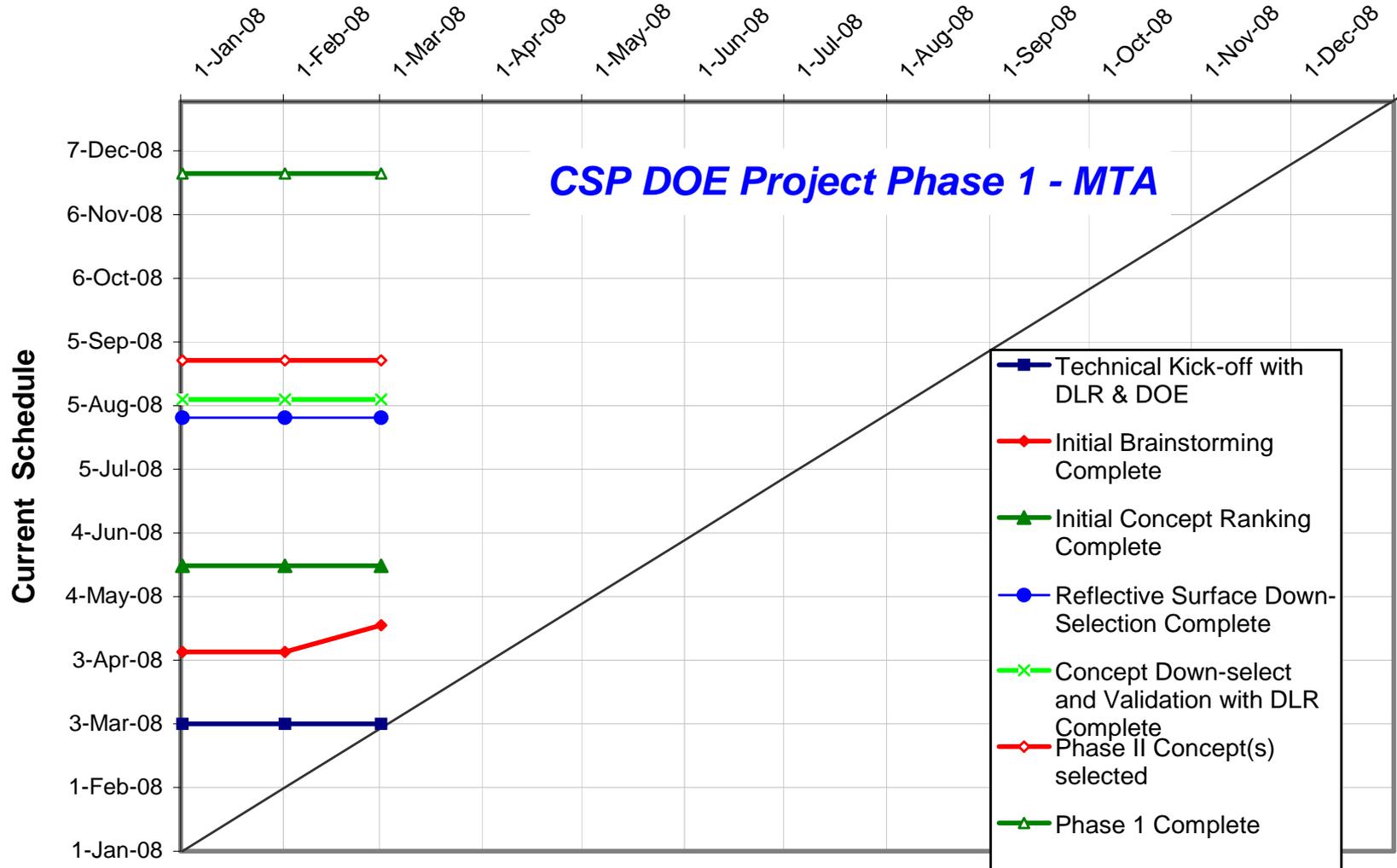
## 3. Future 2008 (Phase 1) Activities:

- a) On Track to Complete Identified Milestones



# FY08 Progress Report

Original Schedule





## Future Activities (FY09, FY10, and Beyond)

- Phase II – Go / No Go 12/2008
  - Prototype Construction
  - Prototype Validation
- Phase III – Go / No Go 02/2010
  - Field Validation Plan
    - Pre-Production Planning
    - Commercialization Planning
- Phase III – Complete 01/2011