## Agenda

### Tewa Pre-Function

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 – 08:00</td>
<td>Registration</td>
<td></td>
</tr>
</tbody>
</table>

### Tewa Ballroom (General Session)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 – 08:10</td>
<td>Kick off and welcome</td>
<td>Thom Mason&lt;br&gt;&lt;i&gt;Director, Los Alamos National Laboratory&lt;/i&gt;</td>
</tr>
<tr>
<td>08:10 – 08:40</td>
<td>LANL Construction Strategy</td>
<td>Kelly Beierschmitt&lt;br&gt;&lt;i&gt;Deputy Laboratory Director for Operations&lt;/i&gt;</td>
</tr>
<tr>
<td>08:40 – 08:50</td>
<td>Safety Message</td>
<td>Michael Hazen&lt;br&gt;&lt;i&gt;Associate Laboratory Director for ESHQSS&lt;/i&gt;</td>
</tr>
<tr>
<td>08:50 – 09:50</td>
<td>Capital Projects</td>
<td>Kathye Segala&lt;br&gt;&lt;i&gt;Associate Laboratory Director for Capital Projects&lt;/i&gt;</td>
</tr>
<tr>
<td>09:50 – 10:20</td>
<td>Networking Break</td>
<td></td>
</tr>
<tr>
<td>10:20 – 11:10</td>
<td>F&amp;O Maintenance</td>
<td>Reed Sharp&lt;br&gt;&lt;i&gt;Director of Maintenance&lt;/i&gt;</td>
</tr>
<tr>
<td>11:10 – 12:00</td>
<td>ASM Processes/SB Initiatives</td>
<td>LeAnne Stribley&lt;br&gt;&lt;i&gt;Associate Laboratory Director for Business Management&lt;/i&gt;</td>
</tr>
<tr>
<td>12:00 – 12:50</td>
<td>Lunch / Keynote Speaker</td>
<td>Kelly Beierschmitt&lt;br&gt;&lt;i&gt;Deputy Laboratory Director for Operations&lt;/i&gt;</td>
</tr>
<tr>
<td>04:30 – 05:00</td>
<td>Subcontractor Feedback</td>
<td>Susan Stein&lt;br&gt;&lt;i&gt;Group Leader for ASM-Capital Projects&lt;/i&gt;</td>
</tr>
</tbody>
</table>

8/12/2019 | Los Alamos National Laboratory
## Agenda

### Tewa Pre-Function

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session A</th>
<th>Session B</th>
<th>Session C</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 – 05:00</td>
<td>Exhibitor Space</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Caldera Ballroom</td>
<td></td>
<td></td>
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<tr>
<td>12:50 – 01:40</td>
<td>Tewa Bay 1-A (A)</td>
<td>Exhibit F updates Christine Baker</td>
<td>How to complete a Request for Proposal John Roybal Assurance Operations</td>
<td>Engineering submittals / process improvements Jim Streit Engineering Services Division Office</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Industrial Safety &amp; Hygiene</td>
<td></td>
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<tr>
<td>01:40 – 02:30</td>
<td>Tewa Bay 1-C (A)</td>
<td>Exhibit F updates Christine Baker</td>
<td>Lessons Learned Ron Schroder Project Integration Division Office</td>
<td>DCO / RFP Process Improvements Susan Stein ASM-Capital Projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02:30 – 02:50</td>
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<td></td>
<td>Networking Break</td>
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<tr>
<td>02:50 – 03:40</td>
<td>Barranca Ballroom (B)</td>
<td></td>
<td>How to complete a Request for Proposal John Roybal Assurance Operations</td>
<td>Engineering submittals / process improvements Jim Streit</td>
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<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>03:40 – 04:30</td>
<td>Tewa Bay 1-C (B)</td>
<td>Security / Exhibit G Steve Maestas / Barbara Carmichael Safety-Deployed Security</td>
<td>Lessons Learned Ron Schroder Project Integration Division Office</td>
<td>DCO / RFP Process Improvements Susan Stein ASM-Capital Projects</td>
</tr>
</tbody>
</table>

8/12/2019 |   3Los Alamos National Laboratory
Dr. Thom Mason
Director

Kick Off and Welcome
Dr. Kelly Beierschmitt
Deputy Laboratory Director for Operations and Chief Operating Officer

“To assure quality, safety, and security, we must stabilize the workforce.”

–Kelly Beierschmitt
LANL is changing its approach to construction subcontract management
We expect to be executing at least $5.5 billion dollars in construction over the next five years and $2.5 billion in subcontracting labor and materials.
Our first procurement for general construction and D&D will be awarded August 30, 2019

LANL will also be awarding new Master Task Order Agreements (MTOA) for electrical, modular buildings, fire suppression, and fire protection by September 30, 2019
We can all succeed if we make a strong commitment to each other and to our new way of doing business

**Architectural and engineering services**

**Construction services**
- General contractors
- Mechanical contractors
- Electrical contractors
- Modular contractors expertise

**D&D contractors**
- Process contaminated expertise
- Waste characterization

**Specialty services**
- Third-party inspection
- Laboratory services
- Commissioning services
- Historical preservation

Exascale Class Computer Cooling Equipment Project
We have partners in the room that can help

Brian D’Anrea
President & CEO

Scott Gustafson,
Vice President
Merrick & Managing Partner of the Merrick-SMSI Joint Venture

Michael Briggs
Vice President Operations and George Rael
Site Program Manager

Ron Lovato
CEO TSAY Corporation

Dominic Pruitt
General Manager of San Ildefonso Services, LLC

Shaun Cunningham
Chief Executive Officer

8/12/2019 | 10 Los Alamos National Laboratory
LANL has been around for more than 75 years

With your partnership, we plan to be around for 75 more
Safety Message

Michael Hazen
Associate Laboratory Director for Environment, Safety, Health, Quality, Safeguards, and Security
Bottom line up front: let’s be safe and successful TOGETHER
19 Recordable Subcontractor Injuries – July 2018 thru June 2019

TRC and DART Contractor Rates

TRC Rate DART Rate

Rate per 200,000 Hours

We have to do better – but how?
Goal: LANL – The safest place to work in New Mexico

Three factors get us to our goal:

1. Leadership (Foreman/Supervisor)
   • Am I in the field enough?

2. Worker Engagement
   • Am I personally committed to everyone's safety?
   • Do I speak up when I have a concern?

3. Continuous Learning
   • Do we seek to improve our work?
   • Do we ask “what must go right”?

The supervisor/worker learning interaction = a sustained safety culture
Triad’s approach is to partner with all subcontractors for:

1. Success

2. Careers free of injury

3. Operational excellence
   - Delivery of quality projects and services, on time, within budget, and with exemplary safety and security
LANL Construction Program Bottom Line

• Five-year future workload warrants a comprehensive construction execution strategy

• Provides the framework for implementing fundamental long term changes to improve construction execution

• Strategy is aligned to job size and project requirements
  – Includes a framework for mentoring Small Business and Northern New Mexico entities
  – Engages existing TRIAD integrated subcontractors in targeted roles
  – MTOA awardees would perform work in respective areas
  – Work inside Limited Areas (e.g. PF-4 and RLUOB) would primarily be accomplished as self-perform with LANL craft
LANL Future Workload Supports a New Strategy

- TEC of all projects = $11.2B thru FY30
- $5.5B performed in FY20 to FY24 window
Subcontract vs. Self-Perform (Parametric-Derived, Construction Value Only)

Total Construction Value thru FY30
- S/C = $2.5B
- S-P = $1.2B

Total Construction Value thru FY24
- S/C = $1.1B
- S-P = $0.73B (driven by Pit Production mission)
Subcontracted Work (Construction Value Only)

Breakdown by Project Size

5 Year Planning Window (FY20 to FY24)

Small Projects (<$1.5M)
$113M
200 projects

Medium Projects (>1.5M and <$10M)
$92M
45 projects

Large Projects (>10M and <$50M)
$277M
37 projects
We are changing the way we do business

- Best value
- Quality
- Partnering
- Safety
- Pre-agreed terms and conditions

- Culture/HPI
- SAFE/LOSA
- Timeline for RFPs
- Accountability
- Core values

- Training and development
- Repeatable execution
- Benchmarking/best practices
- Learning organization
- Feedback

No longer business as usual!
Improvement Initiatives

• Culture Change
  ─ Develop a culture of accountability and ownership
  ─ Set clear understanding of expectations
  ─ Evolve from singular ‘cost & schedule’ mindset to include ‘safety and quality’ as core values
  ─ Promote awareness and training that fosters a learning organization
  ─ Rewards and incentives
Improvement Initiatives

• Human Capital
  — Invest in the development of our workforce through training, mentoring, and development
  — HPI Awareness sessions for TRIAD and subcontractor personnel, including craft
  — Identify needs through skill-gap assessments and resource needs for the portfolio of projects, right size, and right skill (PM, CM, STR)
  — Emphasis on recruitment, hiring, and retention. Particular focus on craft labor pipeline and engagement
Improvement Initiatives

• Project Execution
  — Build and deploy the people, processes, and tools for repeatable execution of large and small construction at Los Alamos
  — Align and improve customer and stakeholder roles (PMO model, alignment with the FODs)
  — Improved quality and safety performance—emphasize the identification of hazards and the monitoring of work with enhanced field presence
  — Streamline engineering process and reviews—earlier involvement in the planning process
Improvement Initiatives

• **Subcontract Management/Small Business**
  
  — Develop a stable long term supply chain, rebuild the relationship with the subcontractors
  
  — Attract new subcontractors and develop and mentor the current subcontractor community
  
  — Increase efficiencies in procurement through streamlined contract vehicles
  
  — Best value vs. low price technically acceptable posture
Subcontracting Strategy

• Achieves critical outcomes aligned with overall Lab Agenda

• Systematic Process Improvement Benefits
  — Develop a stable, long term contracting community with repeat work
  — Increased efficiencies in procurement
  — Incentivized contract structures
  — Reductions in project schedules
  — Improved safety performance
  — Streamlined contract vehicles—pre-agreed terms and conditions
The Master Task Order Agreement (MTOA)—A Vehicle for Incentivizing Performance

Best practices being implemented at LANL to support this strategy

<table>
<thead>
<tr>
<th>Long-range work planning identifies work, creates multi-year mindset</th>
<th>Focus on LANL engagement on all aspects of subcontractor performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Subcontract management to drive accountability</td>
</tr>
<tr>
<td></td>
<td>• Enhance field presence with clearly defined roles and responsibilities</td>
</tr>
<tr>
<td></td>
<td>• Increased daily engagement and observation</td>
</tr>
</tbody>
</table>

**MTOA Life Cycle**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Solicitation</th>
<th>Evaluation / Award</th>
<th>Execution</th>
<th>Close-Out</th>
</tr>
</thead>
</table>

**LANL values and expectations set early**
- Best value selection criteria
- Incentives for performance
- Motivation to earn multi-year work

**Assessments that lead to the right behaviors**
- Trending and analysis
- Feedback to and from subcontractors
- Sharing of lessons learned, performance indicators

**Subcontracting model that positions a small set (2-3) of qualified subcontractors in three job size ranges for a known set of work over five years**
- Incentives to align expectations, priorities, values
- Multi-year development of relationship (performance feedback, best practices)
- Leverage for LANL to correct undesirable behaviors
- Lower cost of ownership (both sides)
  - Streamlined paperwork
  - Multi-year commitment allows a Northern NM presence/office
  - Continuity across POCs from job to job
# MTOA Breakdown by Project Size

<table>
<thead>
<tr>
<th></th>
<th>Small Projects &lt;$1.5M contract value</th>
<th>Midsize Projects &lt;$10M contract value</th>
<th>Large Projects $10M - $50M contract value</th>
<th>Specialty Services</th>
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</thead>
<tbody>
<tr>
<td>General Contractor</td>
<td>Multiple Awards</td>
<td>Multiple Awards</td>
<td>5 Awards: 2 NQA1 3 ML3/4</td>
<td></td>
</tr>
<tr>
<td>Renovations/D&amp;D</td>
<td>N/A</td>
<td>Multiple Awards</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Electrical</td>
<td>N/A</td>
<td>Multiple Awards</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Fire Protection</td>
<td>N/A</td>
<td>Multiple Awards</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Modular Buildings</td>
<td>N/A</td>
<td>Multiple Awards</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

- Modular design-build
- Trailers
- D&D
- ES&H
- Fire protection
- Hoisting & rigging
- QC Inspection
- Engineering
- Shop fabrication
Small Project Execution

Andy Tisler
Director
Small Project Execution Division
What We Do

- Responsible for executing projects up to $50M
- Execute in all areas of the Laboratory except TA-55
- Annual portfolio is approximately $200M
  - Subcontract ~80%
Small Project Future Workload
FY2020 – FY2024

• Building Modifications and Upgrades
  – Mechanical (HVAC, Fire Protection, Utility Upgrades)
  – Electrical (Fire Detection, Modernization, Security, Communications)
  – General (Office Renovations, Building Renovations)
  – Structural (Seismic Upgrades)

• New Buildings (Offices, Fire Station, Parking Structures, Laboratories, Maintenance Shops)
  – Modular
  – Prefabricated
  – Stick Built

• Demolition and Dismantlement (D&D)
  – Radiologically contaminated, clean, Beryllium contaminated, HE contaminated
What We Need

• **Partners**
  — Help us get the work done

• **Safety**
  — Workers go home the way they arrived

• **Quality**
  — Getting the right things right the first time

• **Timeliness**
  — Completing the work on schedule
Large Capital Project Execution

Paul Kreitz
Division Director
What We Do

Enabling LANL’s mission through the execution of Capital Line-Item Construction Projects greater than $50M site-wide

Portfolio Approximately $560M/Year
What is Coming

- D&D / Facility Upgrades (PF-4, RLUOB)

- New Buildings (Parking Structure, Training Center, Offices, Cafeteria, Liquid Waste Treatment Facility, Integrated HE Facility)
30 Pit Per Year Upgrade Initiative

Facility Upgrades
• Install approx. 145 Gloveboxes/Enclosures
• Facility upgrades to meet Haz Cat 3 requirements
• D&D and install of approx. 170 Gloveboxes and associated equipment
• ECF expansions
• Post upgrades
• New change rooms

New Building Construction
• Parking Structure – 6 levels with a footprint of 120,000 SF
• Office/Training/Cafeteria Building – 5 floors totaling approx. 320,000 SF
• Office building – 4 floors totaling over 280,000 SF
• Warehouse(s) to increase storage capacity (non-nuclear)
• Road modifications/construction to accommodate new facilities
• New waste haul road construction from TA-55 to TA-63 to TA-54
• Utility upgrades (water, sewer, power, etc.) to support new construction efforts
Subcontract Craft Curves

TA-55 Prelim SC Craft Curves

- Infrastructure - Phs 1
- Infrastructure - Phs 2
- Infrastructure - Phs 3
What We Need

- **Professional Services**
  - Engineering
  - Fabrication
  - QC Inspection

- **Trades**
  - Pipefitters
  - Electricians
  - Sheet Metal
  - Laborers
  - Carpenters

- **NQA-1 Qualified Vendors**
  - Upgrading the LANL Supply Chain
  - Quality + Execution = Success
Backlog of Maintenance Tasks Offers Challenges and Opportunities

Reed Sharp
Division Leader
Maintenance & Site Services
Infrastructure Portfolio – By The Numbers

941 Buildings
40 Sq. Miles
49 Technical Areas
Elevation 7,500 ft.

Legacy of under-funded maintenance investment
~$1B in existing maintenance and repair needs
Regional craft resource challenges

Property Assets – 1,392
Real Property Buildings, Trailers, Transportables – 854
(7,897,179 sq. ft.)
Real Property OSFs - 500
Leased Assets – 38
(362,756 sq. ft.)
RTBF # of Assets. - 294
(2,604,116 sq. ft.)
SS # of Assets. – 1,098
(5,655,819 sq. ft.)

11,738 Staff, Guard Force, Contractors, Students, Craft Workers & Post Docs

16.9B $
8.2M SQ FT
2 Fire Stations

268 Miles primary and secondary roads
219 Parking Lots
894,555 Sq. Yds. Pavement Surface

32 Miles Primary Electrical Lines
168 Miles Secondary Electrical Lines
55 Miles Natural Gas Distribution Lines
112 Miles Water Distribution Lines
14 Miles Steam Distribution Lines
63 Miles Waste Water Lines
The Maintenance Challenge

• Budgets have been constrained for years
  – Recent external review noted “a sustained lack of investment in facilities & equipment”

• A growing number of our assets may not meet all mission needs

• Existing backlog of repair needs = ~$900M and growing

• We need your help
Key Systems/Items Requiring Attention

- Roofs
- HVAC (air handlers, chillers, RTUs)
- Breakers, switchgear & MCCs
- Steam generation and distribution
- Roads and parking lots
- Walking surfaces
- Utility infrastructure
- Routine CM
- Planned equipment replacement
What happens if we don’t—roof condition at current funding level

$1M PER YEAR INVESTMENT FOR 10 YRS

Deferred Maintenance

Current Building Count

FY 2029 Building Count

$52,500,465

$99,540,168

Green

Amber

Red

DM

$110,000,000

$100,000,000

$90,000,000

$80,000,000

$70,000,000

$60,000,000

$50,000,000

$40,000,000

$30,000,000

$20,000,000

$10,000,000

$0

$10,000,000

$20,000,000

$30,000,000

$40,000,000

$50,000,000

$60,000,000

$70,000,000

$80,000,000
Roof condition at proposed funding level

$10M PER YEAR INVESTMENT FOR 10 YRS

Current Building Count

FY 2029 Building Count

- Green
- Amber
- Red
- DM

Deferred Maintenance
Enabling Actions / Conclusion

• Increased maintenance funding has been identified
• Strengthen contracted maintenance capabilities—we need to build enduring partnerships
• Consistent and reliable funding levels
• Develop maintenance investment plans (5 & 10 year plans) in alignment with Laboratory Agenda
• As funding becomes available, shift attention to areas not addressed by initial increase with a focus on roofs, HVAC, roads, and utility infrastructure
• Remember—maintenance increase alone will not resolve existing immediate needs
Economic Impact Facts

• LANL currently spends around $2.7 billion annually

• Nearly three-quarters, a total of $1.9 billion, is spent in New Mexico

• LANL’s annual payroll is over $1.5 billion, with direct employment of over 14,000

• LANL purchased $756 million in goods and services in 2018, $420 million from New Mexico businesses

• Expenditures supported by LANL* creates 9,400 jobs with a combined payroll of $350 million, generating $1.2 billion in receipts for New Mexico businesses

*Includes indirect expenditures of employees and vendors
Small Business Procurement

Total LANL Awards - $756.4 million
Total New Mexico Awards - $420.5 million
Acquisition Services Management

Changes are coming….and some are here

• **New management**
  – Getting to Yes
  – The right team

• **New approach to customer support**
  – Partnership
  – Understanding the needs
  – Better knowledge of upcoming procurements and timing

• **New tools**
  – Redesigned processes
  – Automation
  – Transparency
Together we’ll experience a modern procurement toolset

- LANL will leverage the world’s leading commercial procurement software
  - SAP Ariba and SAP Fieldglass will be implemented in late 2019 through 2020
    - Fieldglass will be used for services procurements
    - Ariba will be used for the procurement of goods, equipment, and materials
- We will integrate and simplify LANL’s “source-to-pay” process

And make transactions actionable and transparent via the Ariba Network
  - By extending the capabilities of our new platform to your organization via a network
  - And by enabling your organization to interact with LANL real-time and digitally
What are the expected benefits to our suppliers?

• ASM’s Commitments
  – Get a little bit better every day
  – Focus on outcome and partnership
  – Remove self-imposed hurdles
  – Speed, Transparency, and Certainty

• Suppliers may use the Ariba Network for free

• Business interactions become digital and integrated

• All your LANL procurement documents at your fingertips

Ariba Network Suppliers realize:
• 20% faster payment
• 80% increase in order accuracy
• 75% gain in order processing productivity via cXML
• 6-day reduction in days sales outstanding (DSO)
• 35% increase in new business

Source: SAP customer case studies
Half of LANL’s suppliers are on the Ariba Network

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Spend</th>
<th>Invoices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total analyzed</td>
<td>$522M</td>
<td>48,741</td>
</tr>
<tr>
<td>Automation eligible</td>
<td>$486M</td>
<td>45,317</td>
</tr>
<tr>
<td>Matched on Ariba Network</td>
<td>$381M</td>
<td>34,209</td>
</tr>
</tbody>
</table>

**Percentage**
- 50%
- 78%
- 75%

**PROFILE OF LOS ALAMOS NATIONAL LABORATORY’S MATCHED SUPPLIERS ON ARIBA NETWORK**

- **11** Average number of trading relationships
- **2,452** Total number of catalogs
- **$6.2B** Total commerce conducted annually
- **$5M** Average commerce conducted annually
- **958** Average POs received annually
- **923** Average invoices sent annually

**Spend match**
- **Non-matched** 22% 78% 22%
- **Ariba Network matches** 78%
- **$381 million in spend on Ariba Network**

**Invoice match**
- **Non-matched** 25% 75% 25%
- **Ariba Network matches** 75%
- **34K invoices on Ariba Network**

**Supplier match**
- **Non-matched** 50% 50% 50%
- **Ariba Network matches** 50%
- **1,194 suppliers already on Ariba Network**
LANL’s Small Business Program

• We have a robust small business program with aggressive goals, and we are committed to meeting them

• Enhance capabilities to serve the mission
  – Drive improved subcontractor safety performance
  – Broaden small business supplier base

• Drive culture change
  – Leverage relationship with the Pueblo business alliance
  – Establish mentoring and training relationships across the laboratory

• Increase economic impact and encourage partnership to support LANL’s mission needs
  – Doubled the Northern New Mexico Small Business Pricing Preference from 5% to 10%
  – Established a Tribal Business Alliance and the Alliance receives an additional 5% preference

• Case Study: LANL’s successful mentees

• Visit our website and register as a supplier: https://www.lanl.gov/business/