

AME-UP Budget Justification

The total budget required to achieve the objectives outlined in the project narrative and scope of work is \$941,469 (OEA grant of \$843,253; non-federal matching funds of \$98,216) - See details below.

City of Surprise

Personnel

The City of Surprise Community Development Director will provide 3.5 hours effort per week to manage the project for the City of Surprise for the 20 months of the project as cost share. Specifically, the Community Development Director will:

- Oversee the effective compliance of the grant plan
- Help facilitate and anticipate in stakeholder meetings and focus groups
- Review of post meeting minutes and notes to assess successful information gathering
- Host weekly project team meetings to keep project on schedule

This position is considered a key position for this grant and will be filled by Mr. Eric Fitzer, (see attached position description and resume).

Total: 3.5 hrs./week @ \$66.36/hr. (annual salary of \$138,028) for ~87 weeks = \$20,207 (cost share).

Fringe benefits

Fringe benefit rate applied is consistent with institutional rate and other positions in the City of Surprise—Major components of benefits are: retirement, health insurance premiums, and death and long-term disability insurance.

CDD: @ 30% = \$6,062 (cost share)

Other Direct Costs

Space for six stakeholder meetings in the City of Surprise are budgeted on DoD funds, at a cost of \$450 per meeting (setup = \$100; clean-up = \$100; 2 hrs. room rental @ \$100/hr. = \$200; AV - \$50) per the City's standard billing rate. This is a private, fully enclosed room where group participants can be free to share opinions unencumbered by outside distractions. Transcription services as well as translation services will be available at this facility.

Sub-awards and contracts

The City of Surprise will sub-award, via an intergovernmental agreement (see attached letter), with Arizona State University to conduct the activities outlined in the project narrative and scope of work. ASU will have sub-awards with the Sonoran Institute (a private non-profit entity) and the Arizona Geological Survey (a State of Arizona Agency). Both entities offer unique data and/or skill sets and are eligible for sub-award under ASU's standard policies (See details under ASU budget justification below).

The City of Surprise will procure a contractor to provide grant management services. The effort is expected to be 6 hours per month for the first 19 months and 16.1 hours on the 20th month to account

for final grant reporting activities. Total hours are approximately 130 hours at an estimated rate of \$100/hour (based on informal inquiries of vendors) to assist the City of Surprise in administering the OEA grant award, including:

- Financial management, account administration and reconciliation
- Issuing and financially managing sub-award
- Issuing financial reports to DoD as required
- Assuring compliance with all grant terms and conditions

130.1 hours @ \$100/hour = \$13,010 (charged to grant)

This dollar amount allows the City to procure these services under the small purchase method of procurement.

ASU

Contract Personnel

The Special Projects Director at ASU Lightworks will serve as the Project Director and work 29.6 hrs./week effort for the 20 months of the project to provide overall management of the project for a total cost of \$148,000. This rate represents 74 percent of her regular contract pay demonstrating her 29.6 hour/week commitment to the project. The Project Director will manage the overall success of the project on a daily, weekly, monthly basis throughout the duration of the project. These duties include, but are not limited to the following:

- a. Manage project phases and timeline to ensure goals and objectives are met on target
- b. Manage team members and partners to ensure all deadlines are tracked and met
- c. Write and facilitate the stakeholder outreach plan
- d. Host stakeholder meetings, focus groups and Decision Theatre sessions, including regular interface with stakeholders
- e. Create and manage stakeholder outreach data, comments and themes.
- f. Combine qualitative data with quantitative data to create “jump off” report for tool development
- g. Brief team weekly, track progress, make recommendations to ensure targets are met
- h. Provide regular and comprehensive reporting to the City of Surprise on project progress

The position of Project Director is considered a key position for this grant and will be filled by Leisa Brug Weir, (see attached resume).

Personnel - Faculty

One ASU faculty member from the School of Innovation and Society will serve as Team Manager and three ASU faculty will serve as Project Facilitators. Each will each receive 1 month salary in Year 1, and ½ month salary in Year 2 (8 mo. period), from grant funds for work as outlined in the project narrative. Additionally, each will provide 2.5% effort in cost share during the Year 1, and 1.6% effort in cost share during Year 2.

1. Team Manager: Professor of Practice, School for the Future of Innovation in Society:
 - a. Participate in stakeholder outreach efforts, including the Arizona Corporation Commission regarding the project and Web tool.

- b. Provide assistance in understanding state and federal policies that will drive future development of Renewables including the Arizona Renewable Energy Standard, tax incentives, and the state's Clean Power Plan obligations.
 - c. Provide leadership in bringing various ASU personnel together to complete the project.
 - d. Carry out outreach to national renewable energy and transmission companies seeking to construct utility scale renewable energy projects in Arizona.
 - e. Instruct Energy Policy Innovation Council student workers, who will assist in various aspects of the research and stakeholder outreach.
 - f. Provide outreach to various energy-based foundations regarding the value of the tool, both during and after the completion of the tool.
 - g. Conduct outreach to state PUC's and CAISO in the West regarding the tool.
2. Facilitator 1: Professor, School of Geographical Sciences and Urban Planning:
 - a. Coordinate evaluation of land use changes anticipated.
 - b. Identify water requirements
 - c. Calculate water savings over time
 - d. Assist in public opinion evaluation
 - e. Oversee student workers
 - f. Represent the project to private sector renewable energy developers
 3. Facilitator 2: Assistant Professor, Environmental Resource Management:
 - a. Quantify economic impacts using simulation tools such as Jobs and Economic Development Impact (JEDI) model developed by NREL.
 - b. Participate in stakeholder interviews
 - c. Conduct empirical economic modeling
 - d. Provide guidelines and practices for comprehensive and detailed economic impact analysis.
 4. Facilitator 3: Assistant Professor, School of Geographical Sciences and Urban Planning:
 - a. Provide expertise for renewable energy siting, focus on bio energy and will assist with other renewable energy sources.
 - b. Support the geo-spatial analysis and Web tool development activities.
 - c. Participate in stakeholder outreach efforts
 - d. Advise on the developments of the decision support tool

Personnel - Other

A Graduate Student Assistant (GSA) will serve as lead mapping supervisor and lead student supervisor. He will work 20 hrs. /week for 1½ academic years (1 AY = 9 mos.) and 20 hrs. /week for two summers (1 summer = 3 mos.) in calendar years 2016 & 2017. Specifically, the GSA will:

- a. Provide expertise for electric utility infrastructure siting, routing and permitting requirements for Arizona, including cultural/natural resource sensitivities and opportunities/conflicts between renewable energy development and military facilities.
- b. Lead geo-spatial analysis, cartography, multi-media, and Web mapping tool development activities.
- c. Carry out primary data collection, including field data and other geo spatial layers, and document/report preparation activities.
- d. Participate in and provide support in stakeholder outreach efforts.
- e. Oversee some day-to-day project activities (maintain issues tracking sheet, contact lists, project records, budget forecasts, etc.).
- f. Supervise other graduate student assistants who will provide project support.

Two additional hourly students will be paid 10 hrs. /wk. at \$17/hr. during Year 1 of the grant. The duties of the students will include:

- a. Meeting notification to all participating partners and stakeholders
- b. Meeting set up and tear down
- c. Meeting minutes – write and distribute to partners and stakeholders
- d. Assist in meeting agenda creation and distribution
- e. Brief stakeholders, as needed, on project progress
- f. Assist in creation and/or editing of written reports and other documents as needed
- g. Site photography and videography
- h. Participate in tool testing exercises
- i. Assist in tool creation and demonstration activities

Table of ASU Personnel - Year 1					
	Salary (annualized)	% AY effort (Sponsor)	Sponsor Costs	% AY effort (Cost Share)	Cost Share
Personnel					
Professor of Practice, SFIS	\$150,000	8.33%	\$12,500	2.5%	\$3,750
Professor - SGSUP	\$125,333	8.33%	\$10,444	2.5%	\$3,133
Asst. Prof. - EMR	166,595*	8.33%	\$13,883	2.5%	\$4,165
Asst. Prof. - SGSUP	\$ 86,667	8.33%	\$7,222	2.5%	\$2,167
Project Director	\$120,000	74%	\$88,800	0%	\$0
GSA AY	\$ 46,667	50%	\$17,500	0%	\$0
GSA Summer	\$ 46,667	50%	\$5,833	0%	\$0
Total ASU Personnel			\$156,182		\$13,215
Other ASU Personnel					
Undergraduates/Hourly Grads Summary	\$ 35,360	25%	\$8,840	0%	\$0
Undergraduates/Hourly Grads Summary	\$ 35,360	25%	\$8,840	0%	\$0
Total Other Personnel			\$17,680		\$0

Table of ASU Personnel - Year 2** (8 months)					
	Salary (annualized)	% AY effort (Sponsor)	Sponsor Costs	% AY effort (Cost Share)	Cost Share
Personnel					
Professor of Practice, SFIS	\$154,500	4.17%	\$6,437	1.6%	\$2,472
Professor - SGSUP	\$129,093	4.17%	\$5,379	1.6%	\$2,065
Asst. Prof. - EMR	171,593*	4.17%	\$7,150	1.6%	\$2,745
Asst. Prof. - SGSUP	\$ 89,267	4.17%	\$3,719	1.6%	\$1,428
Project Director	\$120,000	49.33%	\$59,200	0%	\$0
GSA AY	\$ 48,067	25%	\$9,013	0%	\$0
GSA Summer	\$ 48,067	50%	\$6,008	0%	\$0

Total ASU Personnel			\$44,049		\$8,710
Other ASU Personnel	\$0	0%	\$0	0%	\$0

Table notes:

* It is not unusual for ASU or universities in general to pay faculty salary in this range if they possess highly-valued expertise; all salaries are approved and within ASU and ABOR policies.

** For budgetary purposes, all salaries are escalated by 3% in Year 2 per ASU policy.

ERE - Employee Related Expenses (Fringe Benefits)

Arizona State University defines fringe benefits as direct costs, estimates benefits as a standard percent of salary applied uniformly to all types sponsored activities, and charges benefits to sponsors in accordance with the Federally-negotiated rates in effect at the time salaries are incurred. Major components of benefits are: retirement, health insurance premiums, disability insurance, and, for faculty, sabbatical leave. Benefit costs are expected to increase approximately 3% per year; the rates used in the proposal budget are based on the current Federally-negotiated Rate Agreement with DHHS of 6/15/2015, plus annual escalation for out years.

ERE Rates	FY2017*	FY2018
Faculty Benefits	29.56%	30.45%
Graduate Student Benefits	12.98%	13.37%
Hourly Student Benefits	1.75%	1.80%

* FY 17 rate used for Year 1 for budgeting purposes per ASU standard procedures.

Other Benefits – Graduate Student Tuition

Per standard ASU policy, graduate student tuition has been charged per student per year at the ASU approved AY rates as follows and are exempt from Facilities & Administrative (F&A) costs:

GSA Tuition	FY2017*	FY2018
AY	\$16,569	\$17,895
Summer	\$1,078	\$1,164
Total	\$17,647	\$19,059

* FY 17 rate used for Year 1 for budgeting purposes per ASU standard procedures.

Travel

Mileage reimbursement for Project Director Leisa Brug for travel throughout Arizona for stakeholder meetings: estimate 3,000 mi. of travel in Year 1 and 2000 mi. of travel in Year 2, @ \$0.445/mile = \$2,225 (rounded to nearest dollar). Note: All travel costs are in accordance with ASU policies and federal guidelines.

Other Direct Costs

Materials & supplies

\$1,900 is budgeted for camera equipment – these are direct expenses for development of virtual site visits and multi-media materials described in the scope of work:

DSLR Camera Kit	\$ 600.00
Wide-angle lens	\$ 800.00
Tripod	\$ 200.00
Panosaurus head	\$ 100.00
Extra battery/memory/bag	\$ 200.00
Total	\$ 1,900.00

An additional \$1,000 is budgeted for misc. materials & supplies required to execute the project.

Publication costs

\$1,000 is budgeted for publications to include: meeting notifications/printing, stakeholder meeting materials, focus group materials, and meeting agendas and minutes.

Independent contracts

A Military Outreach Liaison will assist with outreach to the military community at large for a total cost of \$12,000 which includes all expenses and travel. Estimated cost is \$600/month for 20 months based on market rates. This person is critical to ensuring familiarity with military customs and will be critical to the project team’s goal of building solid relationships with all branches of the military. The liaison will perform the following:

- a. Stakeholder outreach to all relevant military groups
- b. Attend 12 stakeholder meetings – special attention to military needs
- c. Help plan four focus groups
- d. Help facilitate two Decision Theatre test sessions
- e. Review all project materials for consistency with military terminology & customs
- f. Assist in reviewing written project report
- g. Input on Web-tool development

Computer and related expenses

\$5,600 is budget for a computer and related hardware – these are direct expenses for document preparation, emailing, running multi-media and GIS applications, and development of Web-map application.

Item	Qty	Cost Per item	Total Cost
Laptop with dedicated graphics card	1	\$ 1,200.00	\$ 1,200.00
External Storage	1	\$ 100.00	\$ 100.00
Cloud Storage (Monthly)	20	\$ 20.00	\$ 400.00

iPAD/Otter Box/field gear	2	\$ 1,200.00	\$ 2,400.00
Wireless Data Plan (monthly)	20	\$ 50.00	\$ 1,000.00
Sub-Meter GPS	1	\$ 500.00	\$ 500.00
Total		\$ 3,070.00	\$ 5,600.00

\$4,000 is budget for computer software – these are direct expenses for a specific suite of proprietary software needed to create multi-media and Web-mapping materials.

Stitching/Rendering/Google Earth Pro	1	\$ 1,000.00	\$ 1,000.00
ESRI ArcMap	1	\$ 2,000.00	\$ 2,000.00
Adobe Creative Cloud (monthly)	20	\$ 50.00	\$ 1,000.00
Total		\$ 3,050.00	\$ 4,000.00

Sub-awards

ASU will manage sub-awards to the Arizona Geological Survey and The Sonoran Institute:

The Arizona Geological Survey (AZGS)

AZGS will develop software for a web-map application to support the AME-UP System. All code will be accessible to the project team and broader community (according to project access control policies) via GitHub. Deliverable will be client software compatible with standard web browsers (MS Internet Explorer, Chrome, Firefox, and Safari) and supporting server side software deployed and available to stakeholders.

AZGS will manage data acquisition, data management for supporting the web map application and site suitability analysis and querying functions. Data access controls will be established according to project policies.

AZGS's total project budget is \$246,399: \$224,000 is charged to the grant; AZGS will provide in-kind cost share valued at \$22,399 (see attached budget).

The Sonoran Institute (SI)

SI will develop a framework for identifying and characterizing types of encroachment on military operations associated with renewable energy projects. The framework will identify and characterize direct, indirect, and perceived impacts of renewable energy projects on military operations. This framework builds upon an overarching framework developed by SI in its study of encroachment on public lands in Arizona. It is designed to help decision-makers and stakeholders determine the appropriate actions to address specific types of encroachment. Additionally, SI will prepare a set of case studies illustrating various types of encroachment and how these were addressed through stakeholder engagement processes to avoid, minimize, or mitigate impacts.

SI's total project budget is \$51,424: \$45,885 is charged to the grant; the institute will provide in-kind cost share valued at \$5,539 (see attached budget).

Venue Costs: \$1,571 is budgeted for use of ASU's Decision Theater for two meetings to demonstrate project to stakeholders. Cost based on standard rates (see attached).

ASU Indirect Costs/F&A

ASU indirect costs (F&A) are charged on all budget categories except participant support, equipment, sub-award costs over the first \$25,000, and tuition. F&A costs are calculated at the rate of 54.5% for FY 2016 per the rate agreement with DHHS of 6/15/2015 (see attached rate agreement).