



MUNICIPALITY OF ANCHORAGE MAYOR'S ENERGY TASK FORCE

Joe Griffith, President - 1/11/2012

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Joe Griffith, President
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Utility Members

Chugach Electric Association, Inc.
City of Seward, Light & Power
Golden Valley Electric Association, Inc.
Homer Electric Association, Inc.
Matanuska Electric Association, Inc.

ARCTEC – THE RAILBELT G & T CO-OP

“Power in Unity”

- Created January, 2011
- Purpose:
 - Addressing the generation, transmission and ancillary service needs of the Railbelt region
 - Procuring fuel, alternative energy and hydroelectric generation facilities
 - Electric utilities single voice

Railbelt Energy Plan

- Southcentral Power Project
- Eklutna Generation Station
- Nikiski Project
- Tx projects
- Alternative Sources
 - Geo thermal
 - Fire Island
 - Eva Creek
 - Battle Creek
 - Small hydro
 - Wind
- Coal gas
- CIGGS remodel
- Plant 2 repowering
- LNG import/N. Slope
- Watana hydro



FY 2012 ARCTEC RAILBELT PROJECTS

COOK INLET GAS GATHERING SYSTEM REMODEL

- Grant: \$4 million Grantee: Chugach
- Status: Completed in February

RCA approval of operation plan pending

as of 1/9/12

BATTLE CREEK DIVERSION (BRADLEY LAKE)

- Grant: \$3 million Grantee: AEA in-house
- Status: Filed initial consultation with FERC
- Site visit on September 21st
- 60-day comment period ended November 21st
- No resistance lodged

SEWARD POWER PLANT INTEGRATION

- Grant: \$4 million Grantee: Seward Electric
- Status: Scope of work coordination between Chugach and SES underway.

as of 1/9/12

ANCHORAGE TO QUARTZ CREEK 115 KV

- Grant: \$15 million Grantee: Chugach
 - Status: Scope of work defined
 - Grant Agreement to Chugach in December
- Outstanding issue is R&R fund requirement.

as of 1/9/12

GIRDWOOD SUBSTATION

- Grant: \$500,000 Grantee: Chugach
- Status: Grant agreement to Chugach in December
Outstanding issue is R&R fund.

as of 1/9/12

STERLING SUBSTATION

- Grant: \$500,000 Grantee: Homer Electric
- Status: Homer will not pursue due to inadequate funding.

as of 1/9/12

SOLDOTNA TO NIKISKI 115 KV

- Grant: \$18 million Grantee: Homer Electric
- Status: Agreement signed 10/11
- Work is underway



QUARTZ CREEK TO SOLDOTNA 115 KV

- Grant: \$5 million Grantee: Homer Electric
- Status: Scope of work is finalized
- Awaiting agreement execution by Homer



as of 1/9/12

BRADLEY ACCESS TRANSMISSION STUDY

- Grant: \$250,000 Grantee: AEA in-house
- Status: In progress by Electric Power Systems
- EPS reported on “Kenai Transmission RIRP Update” at recent ARCTEC Board meeting

as of 1/9/12

QUARTZ CREEK TO SOLDOTNA DESIGN

- Grant: \$750,000 Grantee: Homer Electric
- Status: Scope of work will depend on the results of the Bradley Access Transmission Study

as of 1/9/12

TEELAND TO HEALY SUB IMPROVEMENTS SVC UPGRADE/TOWER 195 REPAIR

- Grant: \$5 million Grantee: AEA in-house
- Status: SVC vendor has been selected and is awaiting signature (grant was to MOA)
- Tower 195 foundations have been installed
- Towers are being fabricated for installation in February

as of 1/9/12

GENERATION PROJECTS

- In-Progress
 - ✓ Cook Inlet Gas Gathering System remodel (2011)
 - ✓ Battle Creek Diversion- FERC license (2012)
 - ✓ Seward Power Plant integration (2012)
 - ✓ LNG trucking to interior (2013)
 - ✓ DSM/EE programs (2011)
 - ✓ Renewable energy integration investigation (\$0.25MM)
 - ✓ HCCP (2014)
 - ✓ Fire Island Wind **IPP** (2012)
 - ✓ Eva Creek Wind (2013)
 - ✓ South Central Power Plant (2013)
 - ✓ Eklutna Generation Station (2014)

Note: red indicates ARCTEC projects either managed or supported. Blue are someone else's but of interest.

GENERATION PROJECTS (CONT.)

- Near-Term
 - South Fork Hydro **IPP** (2013)
 - Battle Creek Diversion – Construction (2014)
 - Soldotna LM6000 (2014)
 - Nikiski steam generator (2013)
 - Anchorage solid waste **IPP** (2015)
 - Fairbanks solid waste **IPP** (2017)
 - GVEA North Pole 1x1 to 2x1 retrofit (2018)
 - Mt. Spurr geothermal **IPP** (2020)
 - Watana construction (2021)

TRANSMISSION PROJECTS

- In-Progress

- ✓ Quartz Creek to Soldotna 115 kV R&R (\$5MM)
- ✓ Quartz Creek to Soldotna study/ design/ permits (\$1MM)
 - ✓ Bradley access transmission planning
 - ✓ Preliminary design & permitting for line upgrade
- ✓ Teeland to Healy substation improvements (\$5MM)
- ✓ SVC upgrade & Tower 195 repair

TRANSMISSION PROJECTS

- In-Progress

- ✓ Anchorage to Quartz Creek 115 kV R&R (\$15MM)
- ✓ Girdwood Substation 230 kV expansion (\$0.5MM)
- ✓ Sterling Substation 115 kV expansion (\$0.5MM)
- ✓ International Substation expansion (\$14.0MM)
- ✓ Chugach to ML&P interconnection (\$10.0MM)
- ✓ Teeland to Redington 115 kV upgrade (\$14MM)
- ✓ Redington substation rebuild
- ✓ Teeland Substation expansion (\$1.5MM)
- ✓ Soldotna to Nikiski 115 kV (\$18MM)

ARCTEC Railbelt Planning Criteria

“ARCTEC seeks to define and construct the electrical infrastructure environment of the future.”

Background

- No major work on a comprehensive Railbelt energy plan was accomplished until Alaska Energy Authority (AEA) undertook an Integrated Resource Planning (IRP) process in March 2009. The result of that exercise was published in February 2010 as the Regional IRP (RIRP). This document has served as the Railbelt Energy Plan since then.
- ARCTEC subscribes to RIRP findings and structures its capital project plans and funding requests to achieve the general objectives of that plan.

ARCTEC Capital Project Funding Criteria

1. Mitigate Cook Inlet fuel supply problem.
2. Fund class 1 transmission system upgrades (those segments that directly support multiple electrical systems).
3. Support large scale renewable energy projects.

LONG-TERM PLAN

- Watana hydro project participant
- Determine ARCTEC role in Railbelt
- Continue upgrading Railbelt transmission system

Fuel Situation

- Cook Inlet exploration
- AGIA spur
- Bullet line
- LNG importation, foreign or N. Slope supply
- Propane
- Diesel – last resort



ARCTEC 10-YEAR TRANSMISSION PLAN

FY2013 BUDGET REQUEST ONLY

	Project Description	Project Cost	FY 2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	Total
Class I Projects (fuel supply, large scale renewables, Xmsn serving multiple utilities)													
Transmission	1 Unconstrain Bradley Lake Hydro												
	Routing Studies & Preliminary Engineering	\$ 3,500,000	\$ 1,000,000	\$ 2,500,000									\$ 3,500,000
	Permitting, ROW & Environmental	\$ 5,000,000			\$ 3,000,000	\$ 2,000,000							\$ 5,000,000
	Bradley Junction to Soldotna 115kV	\$ 57,000,000					\$ 25,000,000	\$ 25,000,000	\$ 7,000,000				\$ 57,000,000
	Soldotna to Quartz Creek 115kV Dbl Cir	\$ 88,000,000							\$ 13,000,000	\$ 25,000,000	\$ 25,000,000	\$ 25,000,000	\$ 88,000,000
	Quartz Creek to Daves Creek 115kV	\$ 12,000,000			\$ 6,000,000	\$ 6,000,000							\$ 12,000,000
	* Daves Creek to University 230kV Ph 2	\$ 60,000,000			\$ 7,500,000	\$ 7,500,000	\$ 7,500,000					\$ 37,500,000	\$ 60,000,000
	Implementation Planning & Study	\$ 3,000,000	\$ 1,000,000	\$ 2,000,000									\$ 3,000,000
	Anchorage to Kenai Intertie	\$ 150,000,000			\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 27,500,000	\$ 37,500,000	\$ 37,500,000	\$ 32,500,000		\$ 150,000,000
		\$ 378,500,000	\$ 2,000,000	\$ 4,500,000	\$ 21,500,000	\$ 20,500,000	\$ 37,500,000	\$ 52,500,000	\$ 57,500,000	\$ 62,500,000	\$ 57,500,000	\$ 62,500,000	\$ 378,500,000
	2 Alaska Intertie completion/extension												
	Routing Studies & Preliminary Engineering	\$ 1,500,000	\$ 1,500,000										\$ 1,500,000
	Permitting, ROW & Environmental	\$ 3,000,000	\$ 2,000,000	\$ 1,000,000									\$ 3,000,000
	Lake Loraine to Douglas 230KV	\$ 80,000,000			\$ 31,000,000	\$ 39,000,000	\$ 10,000,000						\$ 80,000,000
	Douglas to Healy 230KV	\$ 100,000,000		\$ 1,000,000	\$ 2,000,000	\$ 3,000,000	\$ 7,000,000	\$ 20,000,000	\$ 20,000,000	\$ 20,000,000	\$ 20,000,000	\$ 7,000,000	\$ 100,000,000
		\$ 184,500,000	\$ 3,500,000	\$ 2,000,000	\$ 33,000,000	\$ 42,000,000	\$ 17,000,000	\$ 20,000,000	\$ 20,000,000	\$ 20,000,000	\$ 20,000,000	\$ 7,000,000	\$ 184,500,000

* Daves Creek to University Project completion is beyond 10 year window...likely an additional two years. 230kV voltage conversion & SVC upgrades postponed until after completion

ARCTEC 10-YEAR TRANSMISSION PLAN

FY2013 BUDGET REQUEST ONLY

	Project Description	Project Cost	FY 2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	Total
Class I Projects (fuel supply, large scale renewables, Xmsn serving multiple utilities)													
Fuel	3 Cook Inlet Gas Assurance												
	CIGGS Compression to ensure flow	\$ 3,000,000	\$ 3,000,000										\$ 3,000,000
	Preliminary Engineering - LNG Regas Options	\$ 3,000,000	\$ 3,000,000										\$ 3,000,000
	Permitting, ROW & Environmental - LNG Regas Options	\$ 2,000,000	\$ 2,000,000										\$ 2,000,000
		\$ 8,000,000	\$ 8,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,000,000

ARCTEC 10-YEAR TRANSMISSION PLAN

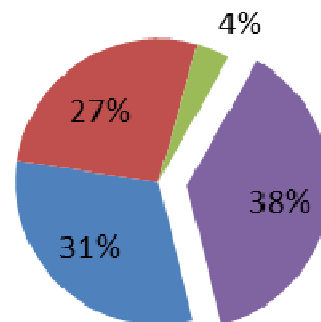
FY2013 BUDGET REQUEST ONLY

	Project Description	Project Cost	FY 2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	Total
Class I Projects (fuel supply, large scale renewables, Xmsn serving multiple utilities)													
Renewables	4 Bradley Lake Enhancements												
	** Battle Creek Diversion	\$ 30,000,000	\$ 15,000,000	\$ 15,000,000									\$ 30,000,000
		\$ 30,000,000	\$ 15,000,000	\$ 15,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,000,000
	ARCTEC Project Totals	\$ 601,000,000	\$ 28,500,000	\$21,500,000	\$ 54,500,000	\$ 62,500,000	\$ 54,500,000	\$ 72,500,000	\$ 77,500,000	\$ 82,500,000	\$ 77,500,000	\$ 69,500,000	\$ 601,000,000

** Battle Creek Diversion - All Large-scale renewable projects will be funded 50% by utility purchasers using the Bradley Lake model—
Overall project \$30 million with utilities paying \$15 Million

Railbelt G&T Investment \$1.6 Billion

- Utility Investment - 0 to 2 years
- Utility Investment - 3 to 5 years
- IPP Investment - 0 to 1 years
- ARCTEC Grant Request - 10 years



QUESTIONS & DISCUSSION