

Grant Lake

Lessons Learned



Kenai Hydro, LLC

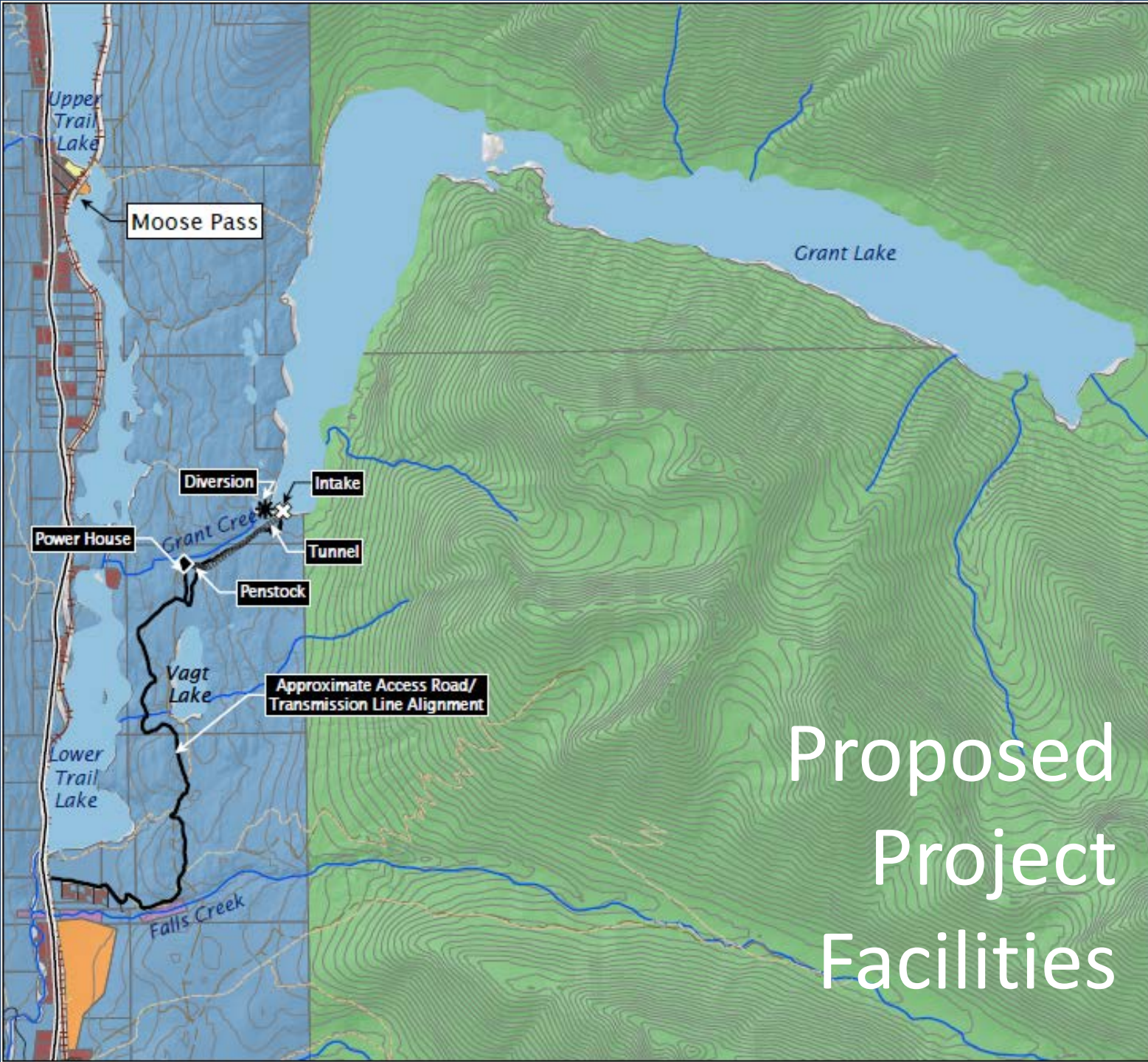
NHA Alaska Regional Meeting

August 30, 2011

Mike Salzetti

Outline

- Brief Grant Lake Hydro Project Overview
- Lessons learned to-date
 - Hire a good licensing consultant
 - Expect opposition
 - Persistence and patience



Project Vicinity & Facilities

Project Features

- Diversion
 - Intake
 - Penstock
 - Tunnel
 - Approximate Access Road/Transmission Line Alignment
 - Power House
- Ownership**
- BLM
 - USFS
 - State
 - Borough
 - ARRC
 - Private
 - USFS Trails
 - Seward Highway
 - Alaska Railroad
 - Lakes
 - Rivers
 - Contours (100 ft)



Map Projection: NAD 83 ASP Zone 4 Feet
 Data Sources: HDR, KPB, AeroMetric, DNR
 Author: HDR Alaska, Inc.
 Date: 05/27/2010

This map represents a conceptual level of utility detail and accuracy. The information displayed here is for planning purposes only. Base information shown constitutes data from various federal, state, public, and private sources. These maps are for review purposes only.

Kenai Hydro LLC



Hire A Good Licensing Consultant

- FERC licensing process is complex (especially for small scale hydro)
- Most utilities don't have this internal expertise
- FERC geared toward relicensing efforts
- Saves money/time/resources
 - Much shorter learning curve
 - Fewer costly mistakes
 - Much more efficient at completing a given task

Expect Opposition

- Renewable power is not universally accepted
- Not in my Backyard
- Change is difficult

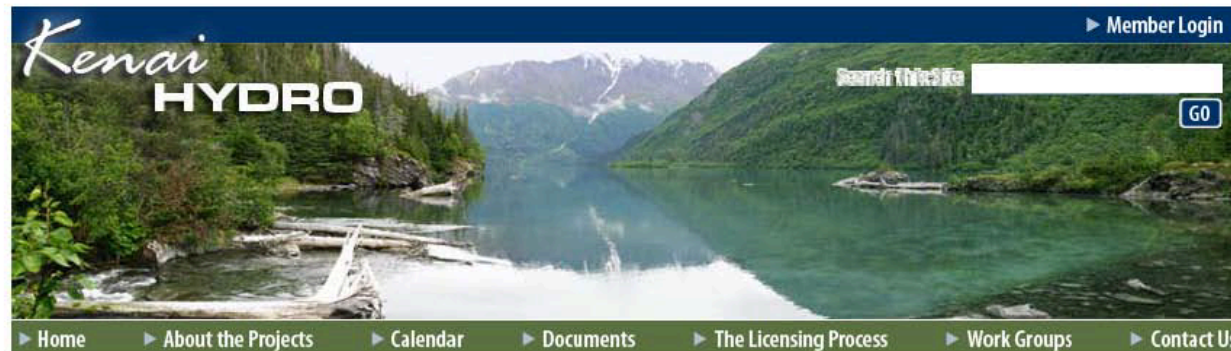
Persistence & Patience

- Small scale hydro schedule (5MW)
 - Feasibility & Licensing (3+ years)
 - Engineering, Construction & Commissioning (2+ years)
- Fossil Fuel Fired Generation (88 MW)
 - 3 years inception to completion
- Hydro Benefits
 - Low cost long term power
 - Environmentally friendly
 - Renewable resource
 - Extremely flexible generation resource
 - Peaking
 - Spin
 - Stored energy

Tracking Project Progress and Comments

Kenai Hydro, LLC website
(www.kenaihydro.com)

FERC E-Subscription Service
(www.ferc.gov)



Sign-up for Email

Receive email alerts of meetings, site updates and important milestones.

► [Sign-up](#)

► [Log In to Your Account](#)

What's New

September 15, 2009
[FERC approves KHL's request to use the TLP](#)

Grant Lake/Falls Creek Project Public Meeting

November 12, 2009 6:00 pm - 9:00 pm

[Details](#)

Thank you for visiting the Kenai Hydro Licensing Web site!

Kenai Hydro has developed this Web site to provide a central clearinghouse for information related KHL's activities under preliminary permits for potential hydroelectric projects on the Kenai Peninsula. This Web site will be used to provide regular updates on the project, announce upcoming meetings and events, and will act as repository for documents related to the licensing effort.

Kenai Hydro LLC is jointly owned by [Wind Energy Alaska LLC](#) and [Homer Electric Association \(HEA\)](#). Wind Energy Alaska is an Alaska company dedicated to developing and operating commercial-scale wind energy projects along the state's Railbelt-energy grid and in other areas of Alaska. It is a 50-50-owned subsidiary of [CIRI](#) and [enXco, Inc.](#)

As the project progresses, this site will grow. So please check back often for updates and upcoming meetings. If you would like to receive e-mail updates please fill out our [e-mail sign-up form](#).

Alaska Department of Fish and Game

Monte D. Miller
Statewide Hydropower Coordinator

Hydropower Development in Alaska ADF&G's Role

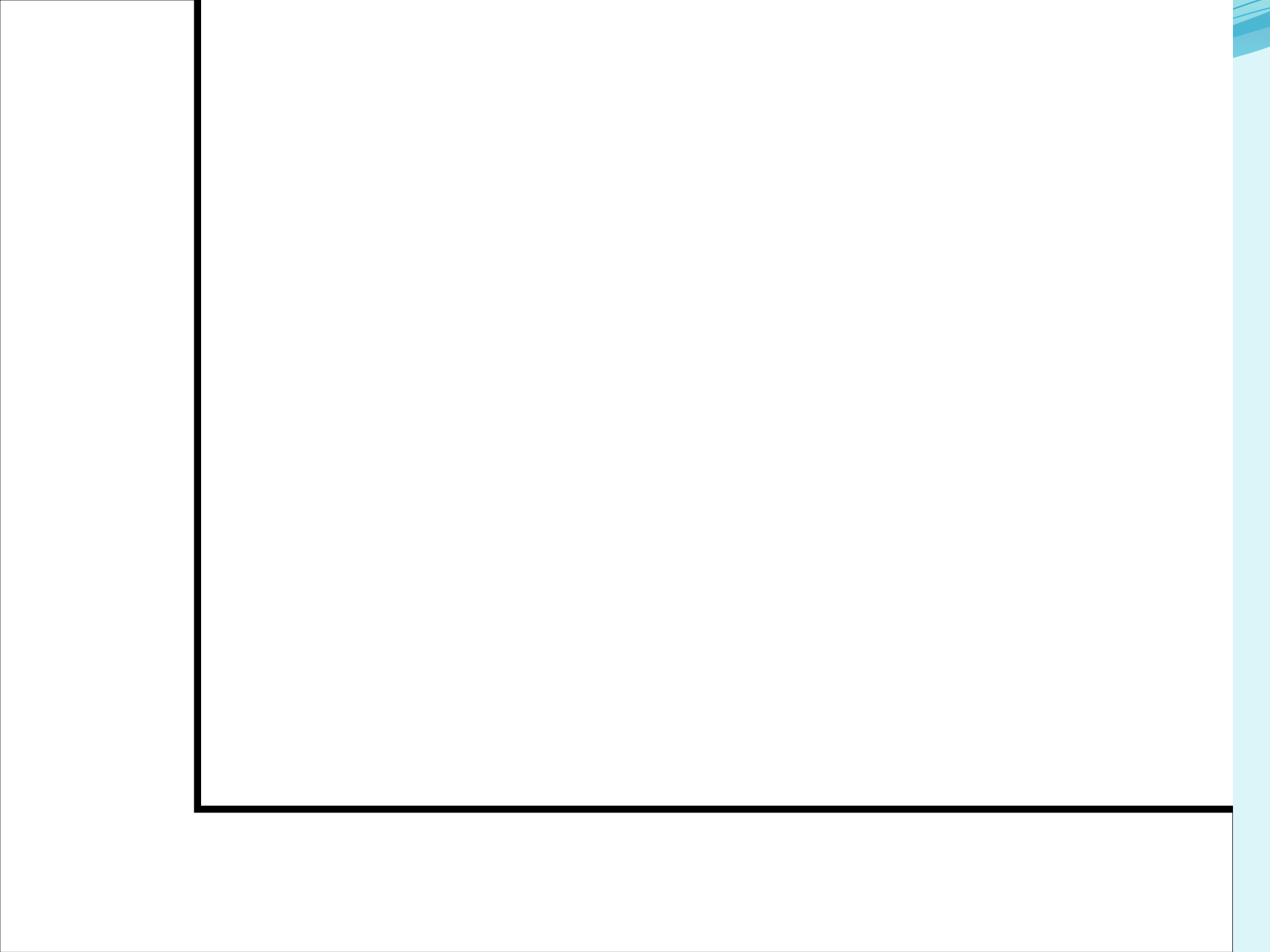


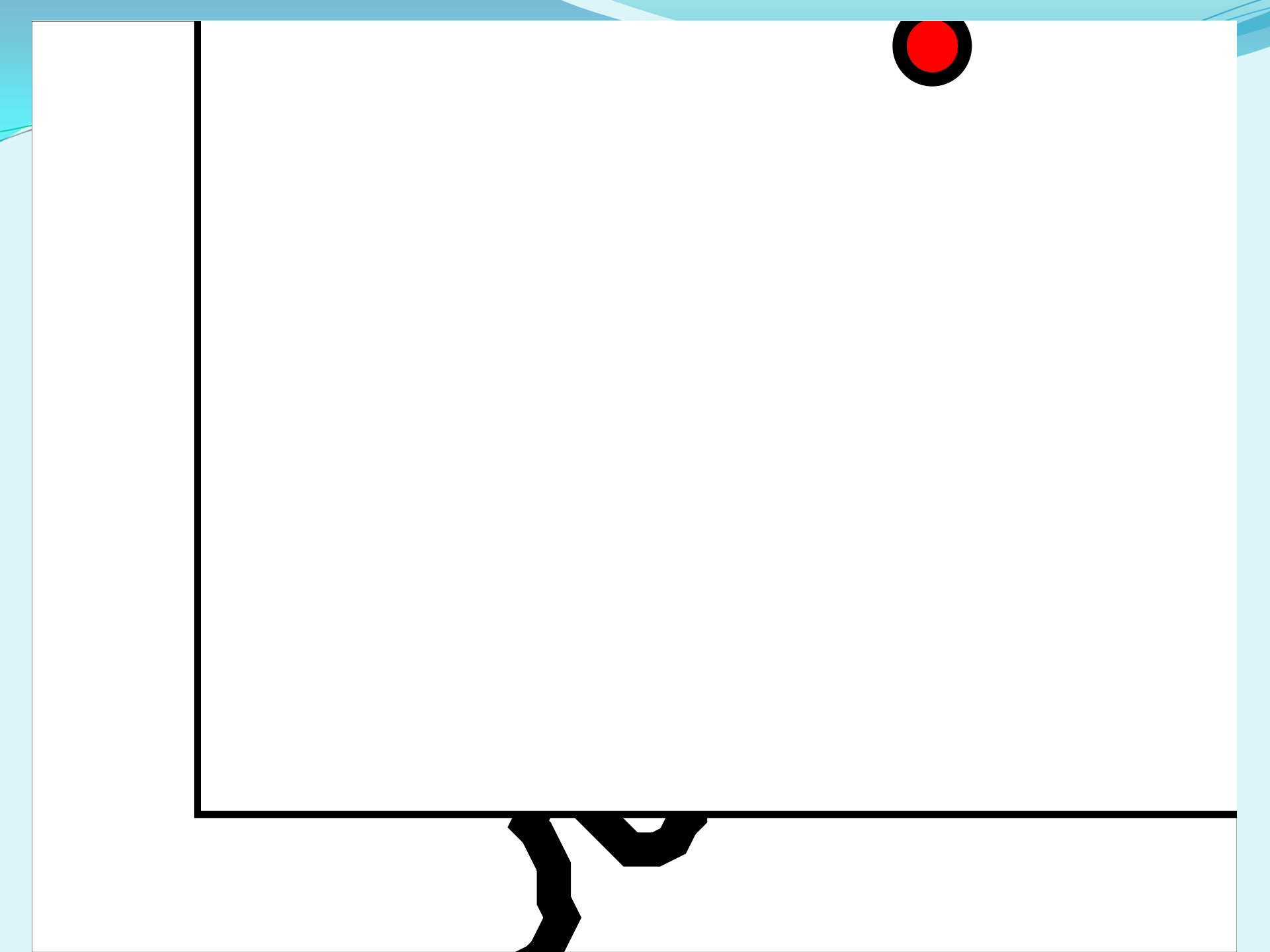
Allison Creek, Valdez Area
Photos: ADF&G, Monte Miller

ADF&G Mission Statement

The Fish and Game Act requires the Alaska Department of Fish and Game to, among other responsibilities,

“...manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state” (AS 16.05.020).





ADF&G Permits

- **Fish Resource Permit**

Needed for field sampling studies

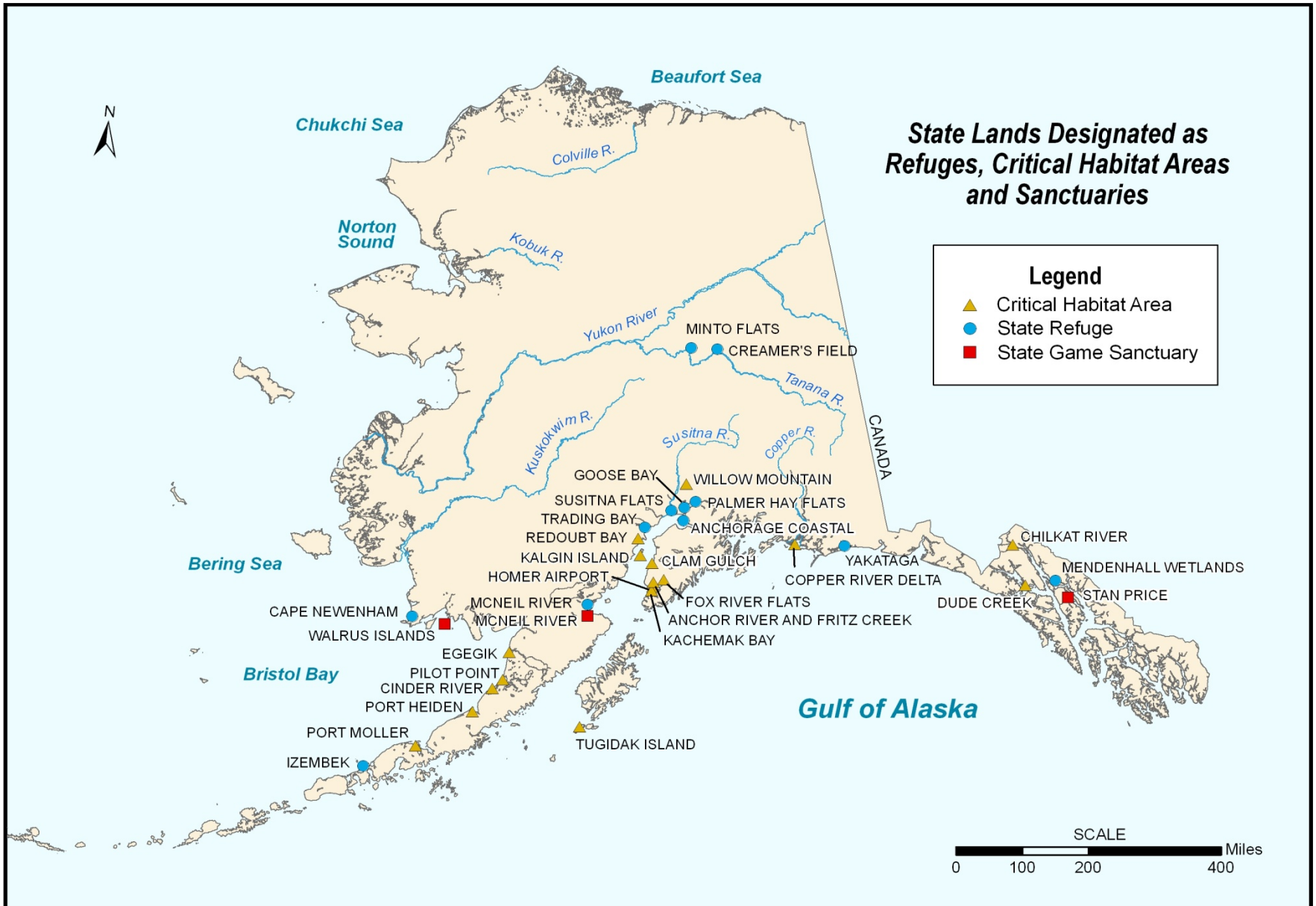
- **Fish Habitat Permit (AS 16.05.841 & .871)**

Needed for instream project work, stream crossings, etc.

- **Special Use Permit**

Needed for any specified activities in Special Use Areas

Alaska Special Use Areas

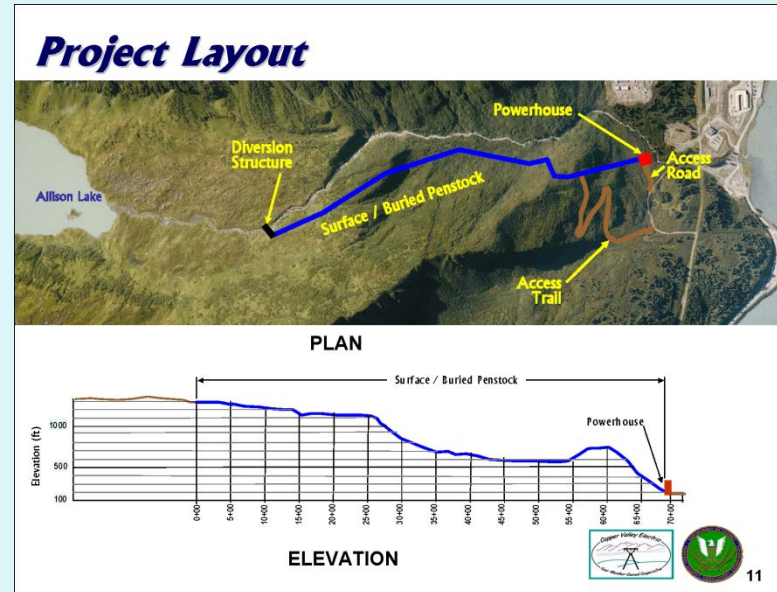


Types of Hydropower Projects

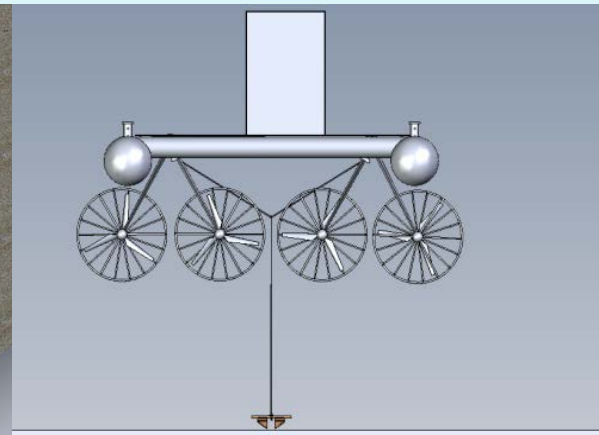
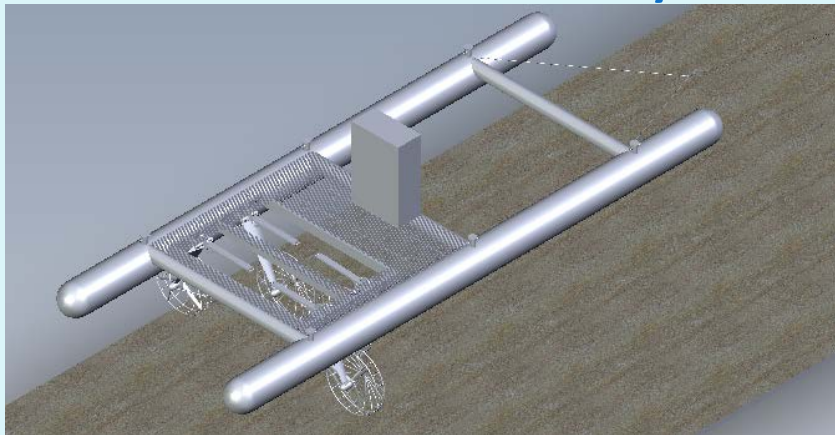
Storage – Dam



Run of the River



Hydrokinetic



**Concrete Storage
Blue Lake-Sitka**



Dam Types

**Air Bladder Dam
Power Creek**



**Crib Dam
Pelican**



**Rock Filled
Cooper Lake**



Asphalt Core Rock Faced (Soule River ?)



Transmission



Quartz Creek 115kV transmission line along the Seward Highway near Girdwood. Photo by Brian Yanity.

Study Areas



Example Fish and Wildlife Considerations

- Streamflow & lake level data
- Instream flow needs
- Bypass reach
- Ramping rates
- Water temperature
- Intake screening
- Fish passage
- Tailrace attraction
- Transmission lines
- Reservoir impoundment
- Icing
- Fish and wildlife habitat
- Flushing/channel maintenance flows



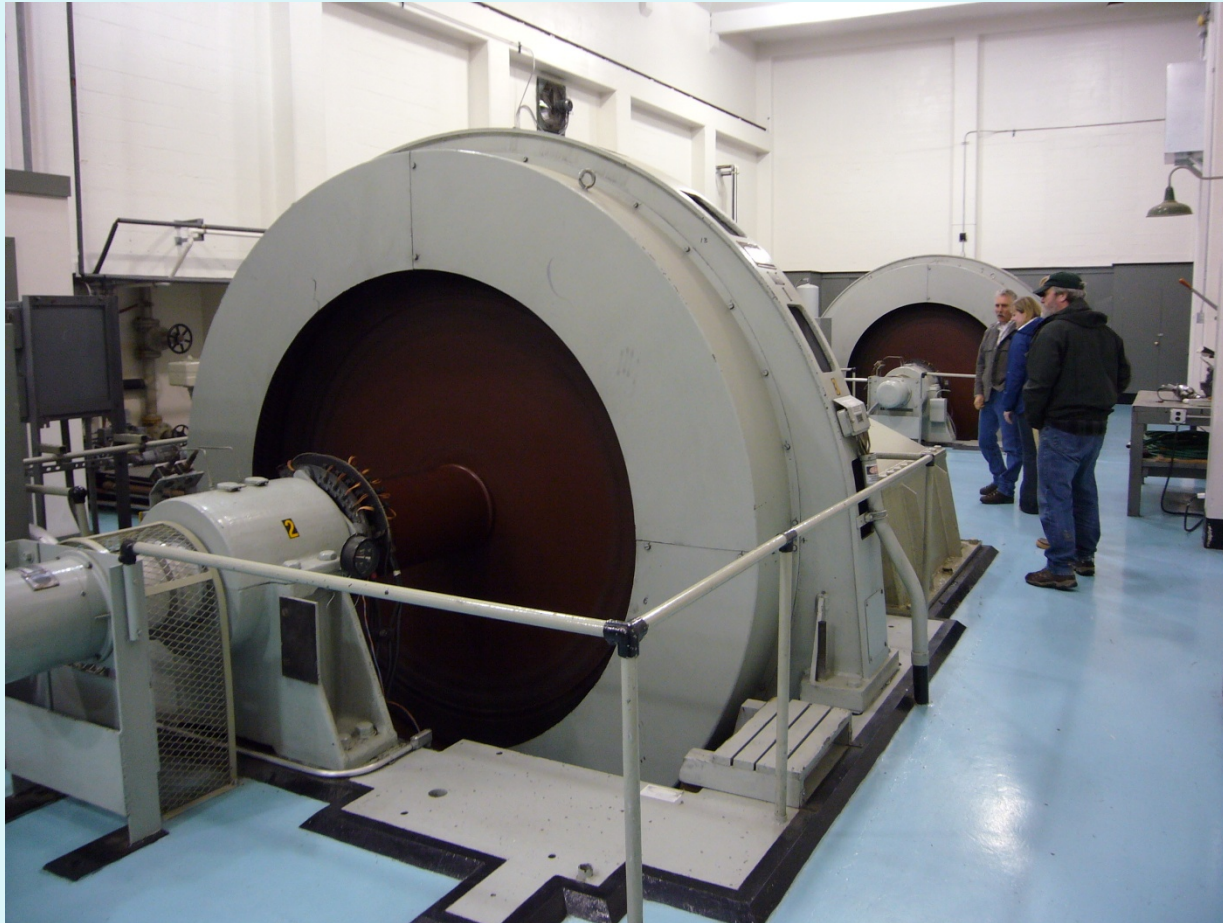
Recommendations

- Adequate Hydrology of sufficient duration to evaluate stream flows/lake levels. Gage as early in the process as possible.
- Consultation on sampling and methods with agencies. Sampling should begin after study plan is completed.
- Adequate time for agency reviews. Depending on work loads/information to be reviewed – commonly 30 days.
- Adequate information for agency evaluation of potential project effects on resources and environment.

Natural Shorelines



Thank You



Beaver Falls Powerhouse



Available.

Reliable.

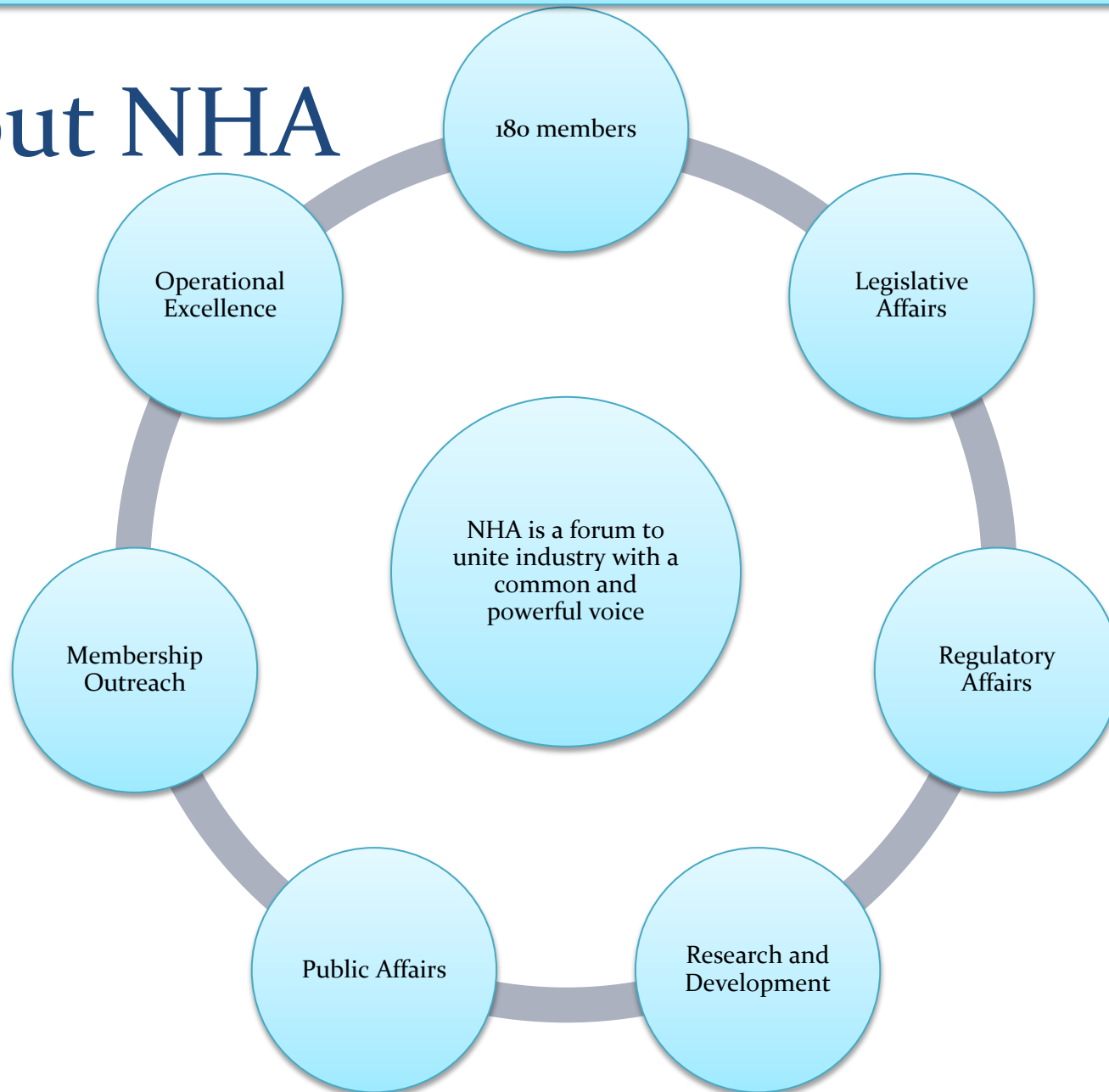
Affordable.

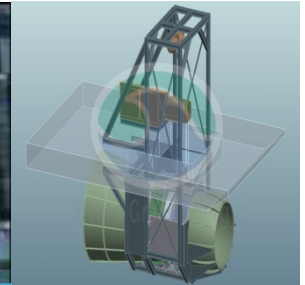
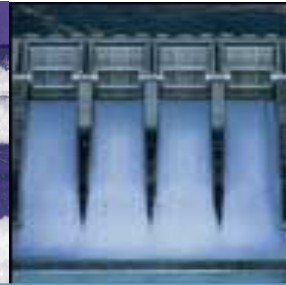
Sustainable.

TAPPING HYDROPOWER'S POTENTIAL IN THE UNITED STATES

Linda Church Ciocci
Executive Director
August 30, 2011
Alaska Regional Meeting – Girdwood, AK

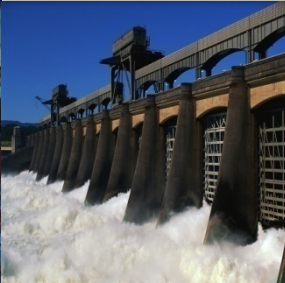
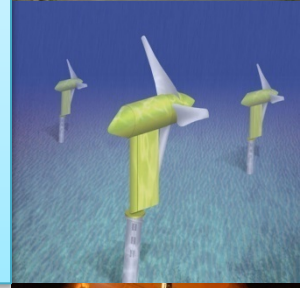
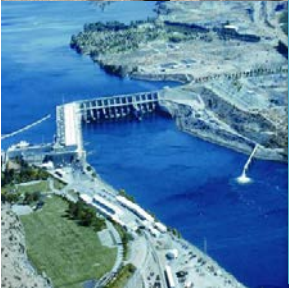
About NHA

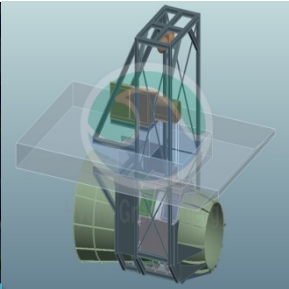




Vision

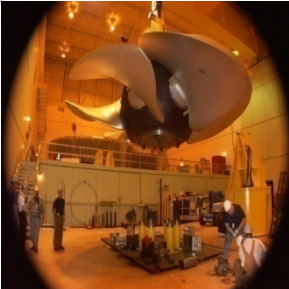
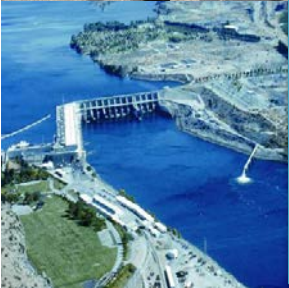
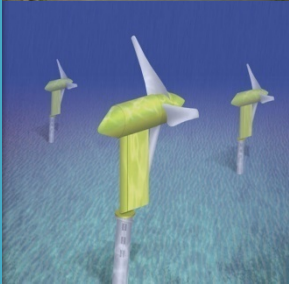
Double America's largest renewable energy resource – Hydropower – in support of a sustainable and secure energy future.



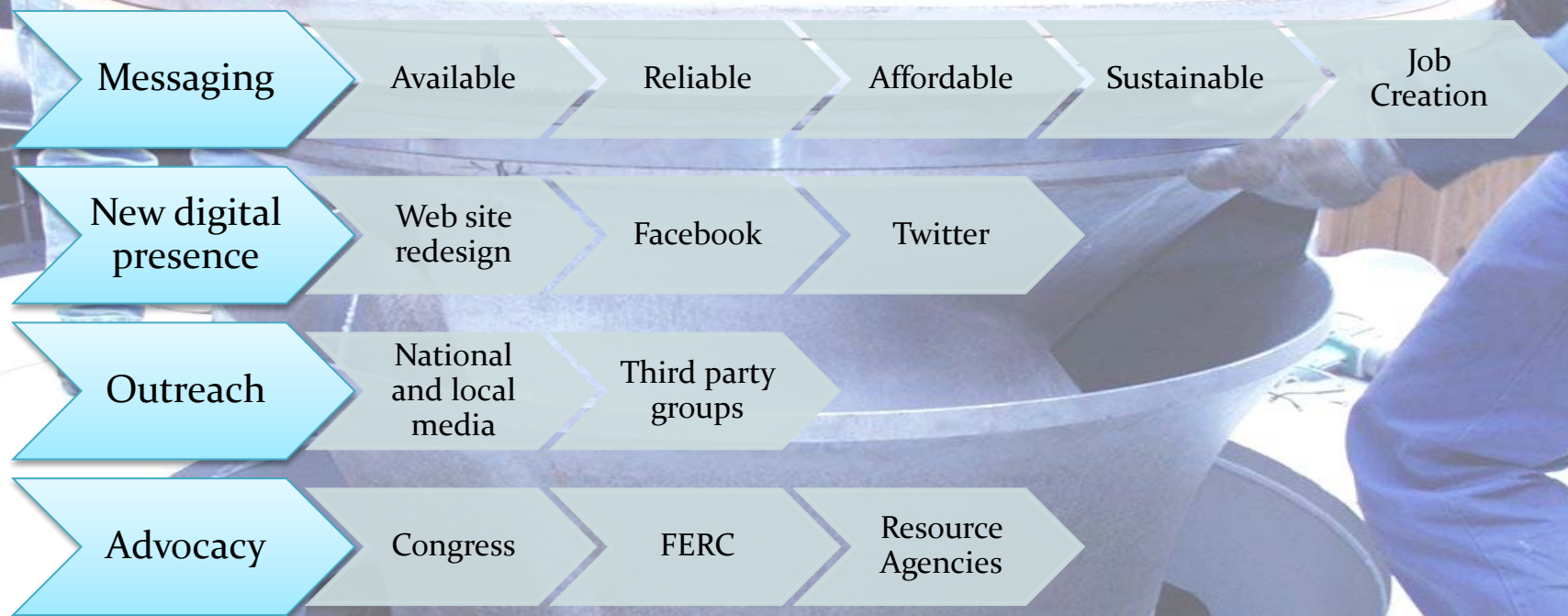


Mission

Champion Hydropower, in all of its forms, as America's premier renewable energy resource. Focus on growth, operational excellence and environmental stewardship.

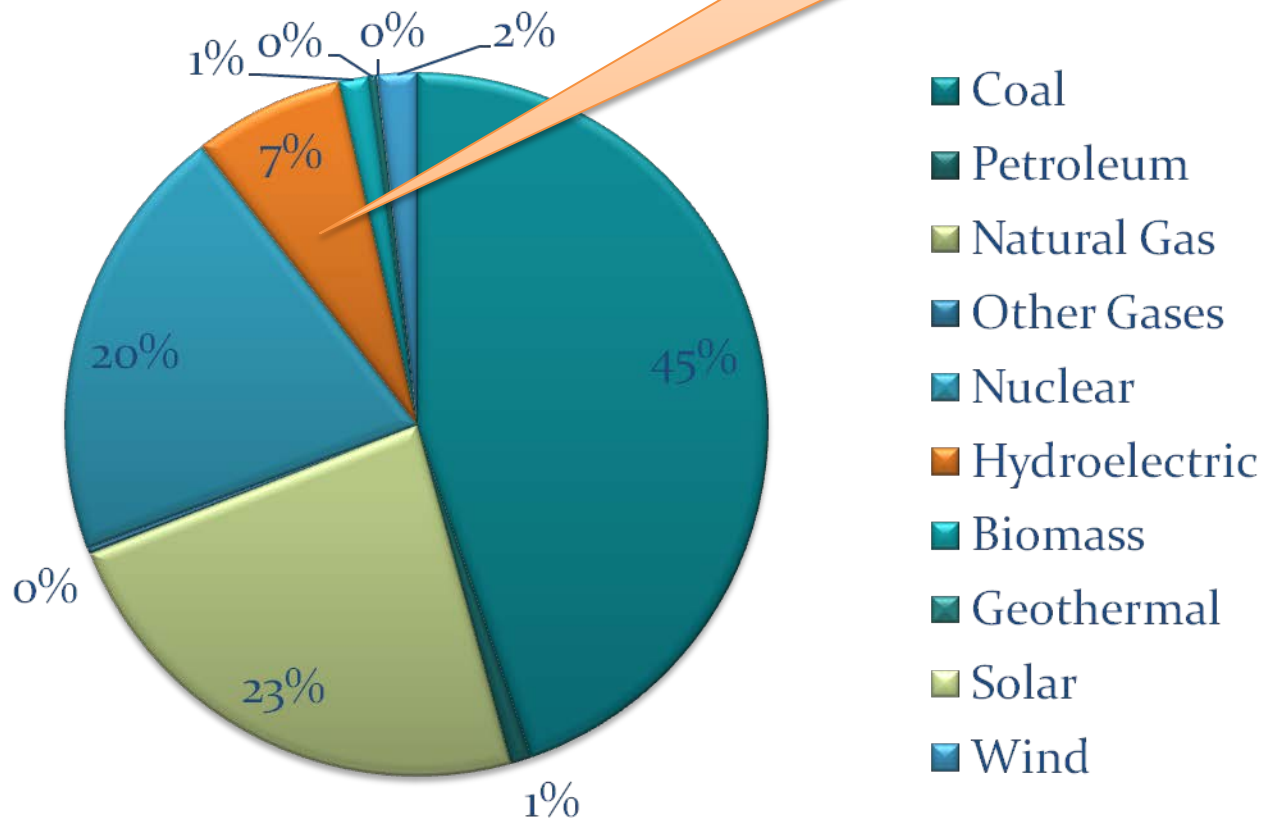


Building Hydropower's Reputation



Availability

U.S. Electricity Generation, 2009



Hydropower is the largest source of renewable electricity generation in the U.S. and made up 7% of overall power generation in 2009.

Availability

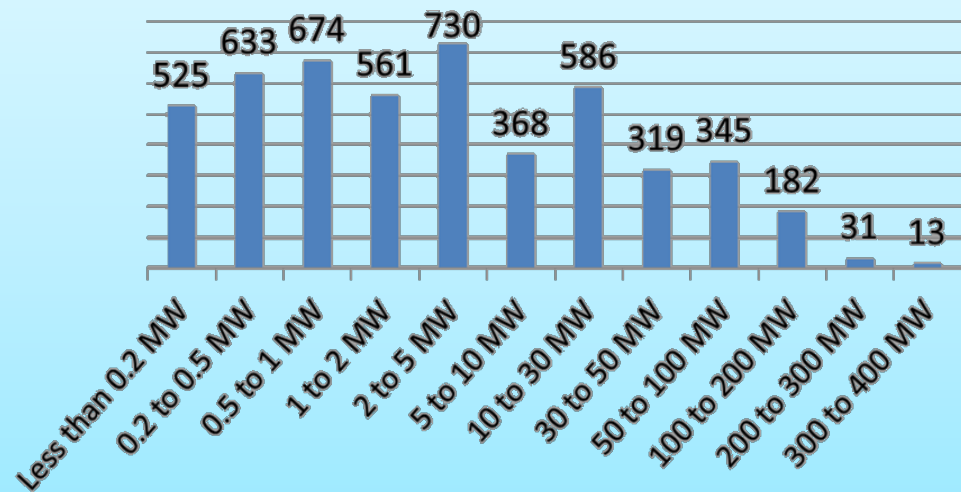
Hydropower is generated in every region and benefits every state.

Top-ten hydropower generating states:

- Washington
- Oregon
- New York
- California
- Alabama
- Idaho
- Tennessee
- Montana
- Arizona
- North Carolina

The industry employs up to 300,000 workers around the U.S., from project development to manufacturing to facilities operations and maintenance.

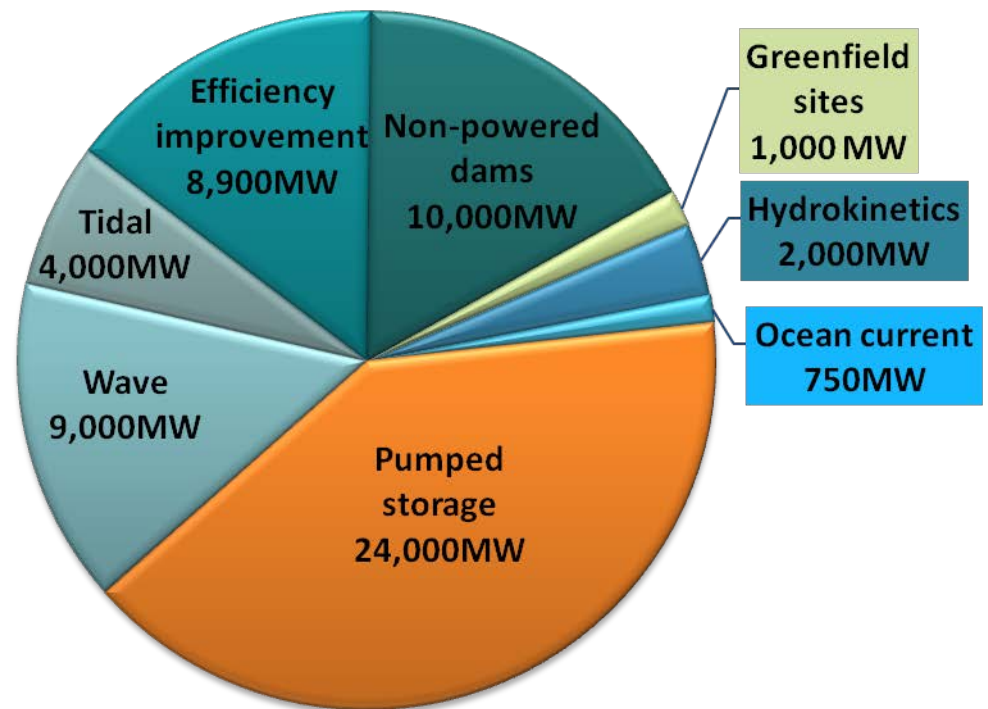
Size (Capacity) Distribution of Currently Operating Units



Future availability

With the right policies in place, **the U.S. could add 60,000 MW** of new hydro capacity by 2025, the vast majority of which can be created without adding new dams.

Hydro Capacity Growth by Technology



Challenges to Growth

Long development lead times

- Permitting and licensing can take over 5 years, followed by construction.
- Incentives generally extended on short-term basis.
- Numerous stakeholder involvement can add to time and cost
- Hard to attract investment

Large up-front capital investment required

- In addition to licensing costs, study costs, projects can require significant up front capital. (New pumped storage projects - \$1-2 billion).
- Projects economic over long-term, but have high immediate start-up costs.

Uncertainty re: support, incentives, and regulatory policy

- Financial community concerned that incentives for hydro may not be renewed before project comes online.
- Affects both utilities and small developers abilities to pursue projects (conventional and new).

Policy Priorities

What it will take:

NHA supports a Clean Energy Standard goal of generating **80% of America's electricity from clean and renewable energy** – a goal achievable only with a significant role for hydropower.

A more efficient regulatory process

Economic incentives to support project development

A national clean and renewable electricity standard

Research and development

More efficient regulatory process

Hydropower Improvement Act

- Introduced by Sen. Murkowski, co-sponsored by Sen. Begich
- Examine a two-year licensing process
- MOU between FERC and mandatory conditioning agencies.
- Reclamation study of barriers to private development
- Received bipartisan support

Small-Scale Hydropower Enhancement Act

- Introduced by Rep. Smith (NE)
- Removes from FERC jurisdiction conduit projects under 1.5 MW
- Conduct study of federal facilities to assess potential of projects under 1 MW
- Reported unanimously

Economic Incentives

Expand incentives

- H.R. 2286 Renewable Energy Parity Act
 - Tax credit parity for hydropower
 - Introduced by Reps. Herger (R-CA) and Thompson (D-CA)
 - No action planned

Ensure long-term certainty

- Expand tax credits thru 2016

National Energy Standard

- Previous proposals recognized only certain hydropower projects as renewable
- A clean energy standard must recognize all hydropower

Research and Development

Advanced Hydropower Development

\$26.6 million solicitation

Pumped storage, conventional, and small hydropower technologies

DOE Water Power Program (FY'12)

President requested \$39 million

House passed \$50 million

Senate has taken no action

Hydropower Improvement Act

Directs DOE to develop R&D plan for hydropower

Establishes \$50 million grant program

Political Climate



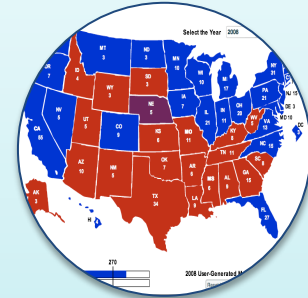
Deficit Reduction

- Intense focus on cutting government spending and reducing debt
- Joint Committee on Deficit Reduction



Proposed Energy Legislation

- Senate plans to focus on energy when it returns
- No commitment from House



Election Year

- President and Vice-President
- 33 Senators
- 435 Members of the House



Contact

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Visit us on the Web

www.hydro.org

 NatlHydroAssoc

 @NatlHydroAssoc



Questions?

BLUE LAKE HYDROELECTRIC EXPANSION PROJECT



SITKA, ALASKA

Background

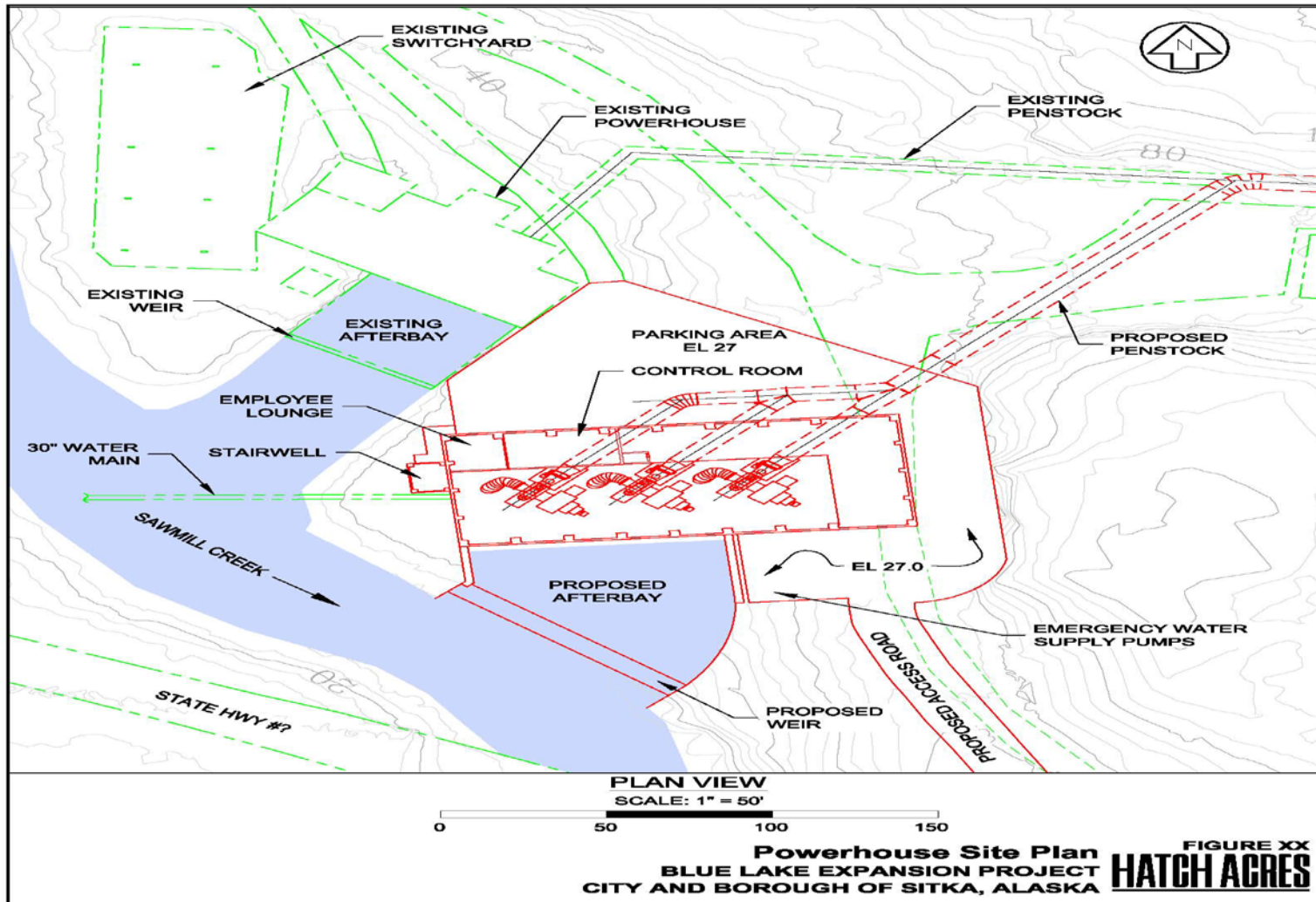
- Original license - March 1958
- Relicense – April 2008
- Capacity Related Amendment Submitted - November 2010



Project Description

- Raise dam 83 feet to final 425 foot elevation
- New Powerhouse w\ (3) 5.3MW turbines
- New Intake Structure
- New 1 MW Fish Valve Unit
- New Surge Chamber
- Penstock and tunnel upgrades
- Additional 34,500 MWH firm energy
- Decommission (2) 3 MW & (1) 670kW machines
- Funding - \$50M grant/\$50M municipal bond

Powerhouse Design



Blue Lake Dam – Upstream Face



Blue Lake Dam – Downstream Face



Inundation Area – 362 Acres



BLUE LAKE EXPANSION INUNDATION AREA
1646 ACRES, 362 ADDITIONAL ACRES

Blue Lake - Present



Blue Lake - Winter



Blue Lake - Spilling



Capital Investments

- August 2009 - \$5M contract for engineering design & construction specifications
- September 2010 - \$13.2M order for new turbine generators
- August 2011 - \$300k order for powerhouse crane
- August 2011 - \$1.2M for powerhouse building

Regulatory Impacts

- FPA 4(e) & 10(j) Mandatory Conditions
- USACOE Wetlands Mitigation
- PM&E Measures
- USFS Roadless Rule Determination
- FERC EA

Engineering Challenges

- Rock Stability - Left Abutment
- Thrust Block – Left Abutment
- Narrow window for generation outage – Sep/Oct
- Dam Foundation Stability – Plunge Pool Modifications
- Exploratory abutment tunnel – Spring 2012

Projected Schedule

- FERC Order Issuing License Amendment – Nov 2011
- General Construction Bid – Nov 2011
- Construction Start – Apr 2012
- Complete Construction – Oct 2013
- Reservoir Filling Oct 2013 – Sep 2015

Questions?

“Electricity is the power that causes all natural phenomena not know to be caused by something else.”

Ambrose Bierce

BLUE LAKE HYDROELECTRIC EXPANSION PROJECT



SITKA, ALASKA

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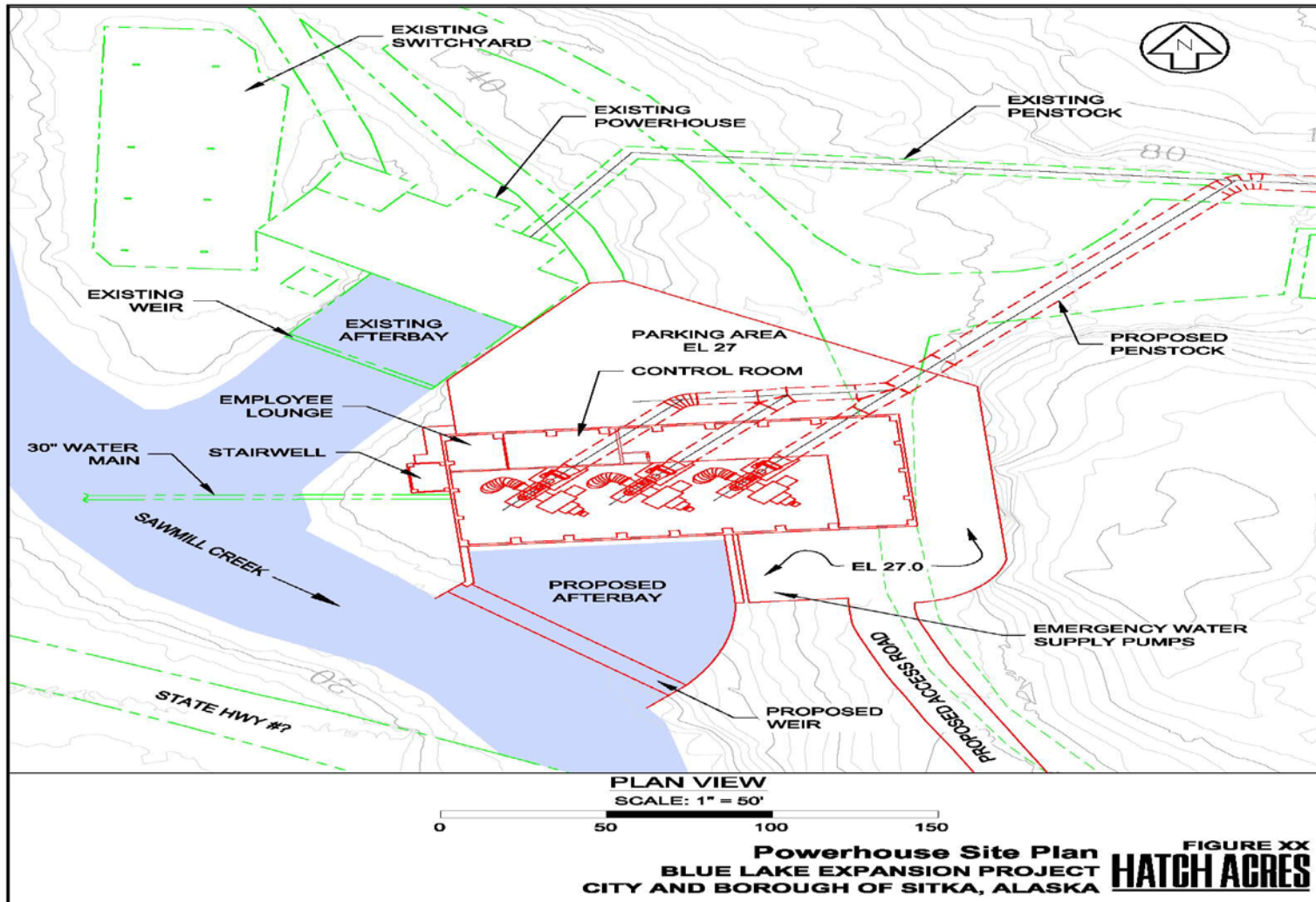
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Funding Mechanisms for Building Alaska's Hydros

Regional Meeting of the National Hydropower Association
Girdwood, Alaska
August 30-31, 2011



Hydropower Projects and Alaska's Renewable Energy Grant Fund

- What is the Renewable Energy Fund?
- What is the review process for applications?
- How is project phasing used to define grant scope?
- Hydroelectric projects getting grants from the Renewable Energy Fund

Summary – All Hydro Grants

- 76 grants totaling \$110,000,000
- (\$53M in grant funds + \$57M in match)

Stage of Project	Grant + Match \$
Recon + feasibility	\$14M
Permitting + Final Design	\$16M
Construction	\$80M

AEA Power Project Fund

- **PURPOSE:** The fund is available to make loans for studies, licensing, design, and construction of small scale (< 10 MW) power production facilities.
- **Eligible projects** include constructing, equipping, modifying, improving and expanding power facilities
- **Eligible applicants** include electric utilities, regional electrical authorities, municipalities, regional and village corporations, village councils and IPPs
- **Authority:** AS 42.45.010
- **Regulations:** 3 AAC 106.100-140

AEA Power Project Fund

- Loan approval authority depends upon loan amount (loans of more than \$5M require legislative approval)
- Loan interest rate can be variable depending upon project

Other Sources of Funding

- State of Alaska legislative grants
- U.S. Department of Energy Rural Energy Grants
- Commercial loans
- Public/Private partnerships
- AIDEA loan guarantees / credit support / infrastructure financing
- Tax abatements, tax credits / rebates

Emerging Energy Technology Fund

- Objective: “To promote the expansion of energy sources available to Alaskans”
- \$9.6 million (AEA and Denali Commission)
- Advisory Committee:
 - Denali Comm
 - NREL
 - NETL
 - Fossil rep
 - Renewable rep
 - APA / Electric utility rep
 - AIDEA



EETF Status

- AEA solicited proposals in early 2011
- Received 57 apps requesting \$22 million
- Advisory committee began review, but Dept of Law concluded regs needed
- Regulations released for public review
 - Comments due Sept 28
 - Hearing at AEA on Aug 31
- RFA likely in November
- Awards before construction season



Thanks!

Douglas Ott, P.E.
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The Forest Service and the FERC Process

NHA Alaska

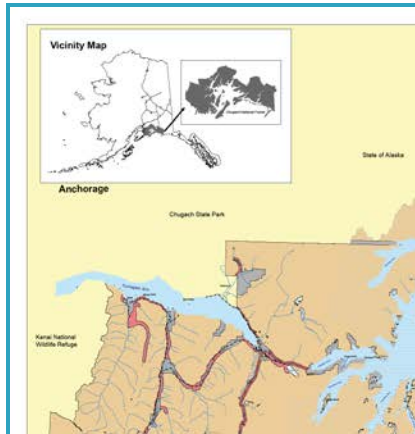
August 2011



Chugach NF

3 operating projects

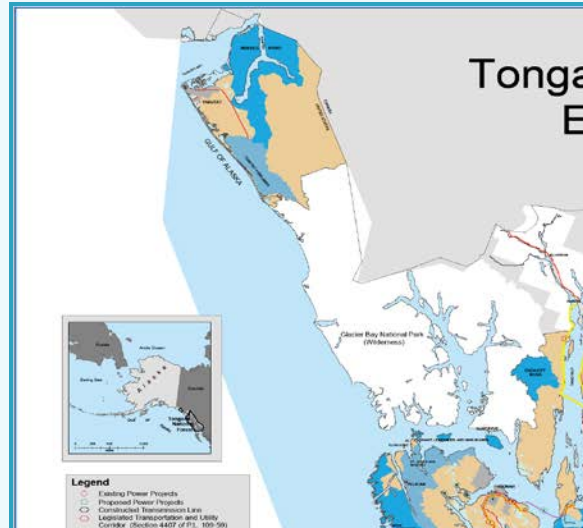
4 proposed,
including 1
licensed but
unconstructed
project



Tongass NF

24 operating
hydro projects

24 proposed,
including 3
licensed but
unconstructed
projects



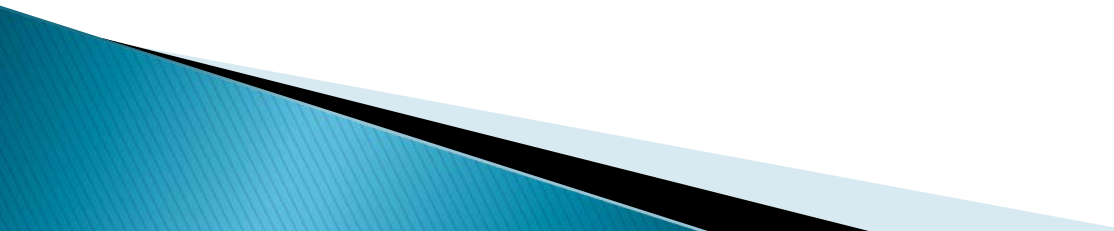
Energy and Sustainable Communities

USDA Strategic Plan

Facilitate Sustainable Renewable Energy Development --

When compatible with other natural resource goals, USDA will facilitate the use of public lands in our National Forest System to support sustainable renewable energy.

Forest Service National Policy:

- ▶ To encourage hydropower production where it is compatible with National Forest purposes and ensure that the planning, construction, and operation of hydropower projects protect and effectively utilize National Forest System lands and resources.
- 


Role of Forest Service in FERC Licensing

The Forest Service

- intervenes in most hydro projects within the NF boundaries.
- issues special use permit for investigative studies/fieldwork on NF.
- reviews study plans, documents, files comments, provides information.
- files preliminary 4(e) terms and conditions

Role of Forest Service in FERC Licensing

Forest Service

- files final 4(e) terms and conditions – mandatory, included in FERC license.
 - issues final permit for occupancy of NFS lands and construction, operation, maintenance of project.
 - reviews, approves post-licensing plans.
 - monitors compliance with permit terms, 4(e)s.
- 

Contact info:

Barbara Stanley
US Forest Service Energy Coordinator
Federal Building
Ketchikan, AK 99901

907 228-6262

bstanley@fs.fed.us

Call me.





Good morning ladies and gentlemen it is a pleasure to be here.

My name is Bob Grimm, I am the president of Alaska Power & Telephone.

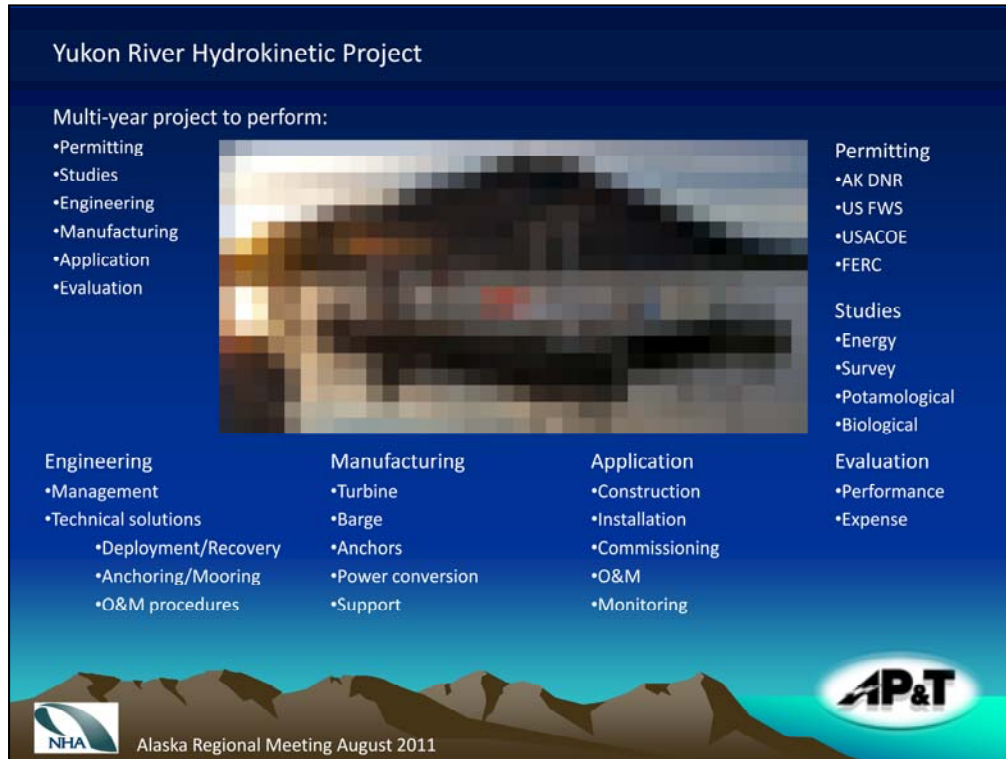
Before I begin I would like to thank the NHA and the other sponsors for organizing this event.

I have a short presentation that describes our companies experience in the application of a hydrokinetic turbine generator operating in the Yukon River at Eagle, AK.

This project was undertaken in an effort to determine the potential of the new technology to provide energy from a renewable resource.

AP&T is committed to the development of renewable energy solutions and their application in the rural Alaskan communities that it serves.

Over the years AP&T has implemented several renewable energy projects that have replaced a majority of its diesel generation and it continues with this effort by looking for new opportunities and evaluating new renewable energy technologies.



The concept for the project was developed over a decade ago and plans were made to install the equipment at that time.

However the project was shelved for several years until 2006 when a request was made for funding to the Denali Commission.

The funding request was for the multi-year study to evaluate the application of a hydrokinetic turbine generator integrated into the power system of Eagle.

The funding was awarded in 2007 and project activities commenced in the fall of that year.

Previous permits were updated and scientists and technicians were contracted to perform site studies.

A contract was issued for the turbine equipment and engineering activities were underway to design the project facilities.

In early 2009 it was necessary to replace the turbine equipment supplier and New Energy was selected to provide the turbine.




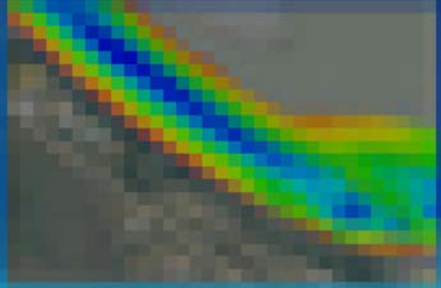
In 2009 an additional funding request was made to the Denali Commission and in 2010 the additional funding was granted.



In 2010 the equipment was deployed and commissioned.

Yukon River Hydrokinetic Project

Facts:

- Funded by the Denali Commission
 - \$1.6 mil grant awarded in 2007
 - \$1.5 mil grant awarded in 2010
- Administered by the Alaska Center for Energy and Power
- Installed and commissioned in 2010
- Barge mounted New Energy EnCurrent 25kW turbine
- AC-DC-AC power conversion
- Output 3Ø, 60Hz power exported to 7200V Eagle distribution system
- Relocating in 2012 to the ACEP Nenana Test Facility on the Tanana River for further studies

Alaska Regional Meeting August 2011

The equipment operated successfully but was taken out of service after sustaining serious damage from the impact large debris during a heavy river drift event.

The equipment was repaired and put back into service only to be seriously damaged again ten days later in another heavy drift event at which time the equipment was taken out of service for the balance of the operating season.

In early 2011 it was decided to work in cooperation with ACEP and a proposal was drafted and submitted to the Denali Commission seeking their approval to move the equipment to the ACEP test facility in Nenana for further studies.

This summer the Denali Commission approved this rescope of the project and today activities are underway to demobilize the equipment from Eagle and transport it to Nenana.

Yukon River Hydrokinetic Project

Importance to Alaskans

- Potential renewable energy resource
 - Reduce dependence on costly diesel powered generation facilities
 - Increase sustainability of smaller Alaskan towns and villages by reducing economic burden of fossil fueled generation
- Similar technology to tidal generators
 - Technical solutions may be applicable to both models



Unique factors about the project

- One of the first of its kind in Alaska
- First of its kind in Alaska to be fully integrated into the local utility grid
- First its kind to provide electricity to an isolated Alaskan community



Alaska Regional Meeting August 2011



AP&T is determined to find the ways and means to reduce its dependence on fossil fuels for generation of electrical power.

The hydrokinetic turbine is a technology that has great promise to meet this goal.

The success of AP&T in its deployment and operation of this technology in Eagle points to its viability.

Yukon River Hydrokinetic Project

Project Successes

- Performance and reliability of the technology
 - Turbine generator
 - Barge
 - Anchor
 - Deployment and recovery
 - Power conversion and integration
 - Control and communication
- Power generation, both in:
 - Parallel mode auto-synchronizing with diesel powered generation system, and
 - Standalone mode supplying electricity to an isolated section of the Eagle grid.
- Potamological studies and surveying performed by TerraSond
- Biological studies performed by the University of Alaska – Fairbanks and BioSonics
- Cooperation of AP&T with the consultants, technology developers and equipment suppliers



Alaska Regional Meeting August 2011



The Eagle project was the first of its kind in Alaska to fully integrate the hydrokinetic generation into an existing electric power utility.

The successful parallel and stand alone operation of the hydrokinetic system providing power to the existing generation system proves that the power conversion technology is robust and dependable.







Our experience shows that the operation of this technology has very low impact on the river environment.

Concurrent laboratory studies have shown that the EnCurrent vertical axis cross flow turbine has negligible impact on fish.

Yukon River Hydrokinetic Project

Lessons learned

- Technology
 - Vertical axis cross flow turbine appears to have negligible impact on fish
 - Careful subsurface power cable routing critical to minimize failures
 - Number of subsurface mooring lines should be minimized
 - Turbine performance dramatically effected by river turbulence
- Operations
 - Challenges of working with a powerful force of nature
 - Challenges of operating the technology in a remote location
 - Challenges in the logistics of rapidly providing necessary O&M support forces
- Maintenance
 - Challenges associated with periodic debris 'drift' on the river
 - Susceptibility of the equipment to fouling and damage
 - Difficulty in managing the large submerged and hidden neutrally buoyant objects
 - Requirement for a large crew to be available to remove heavy accumulations
 - Maintenance expenses at the site far exceed the value of the modest generation revenue

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However it is clear from our experience that the ultimate success of this technology will be sensitive to the location that the technology is applied.

It turns out that operating this hydrokinetic device in the middle of the Yukon has proved not to be economical at this time.

However there are potential sites near other communities that are served by AP&T where this technology may be successfully utilized.

These sites include both river and tidal locations.

And throughout Alaska there are many communities that may be well served by the application of a hydrokinetic turbine generator.

With the continued study of this technology by organizations like ACEP it is possible that the means can be discovered to mitigate the recognized challenges.

Thank you ladies and gentlemen that concludes my presentation.



FERC 101/ALASKA

Preliminary Permits, Licenses, and Exemptions

Jennifer Hill, FERC
August 30, 2011



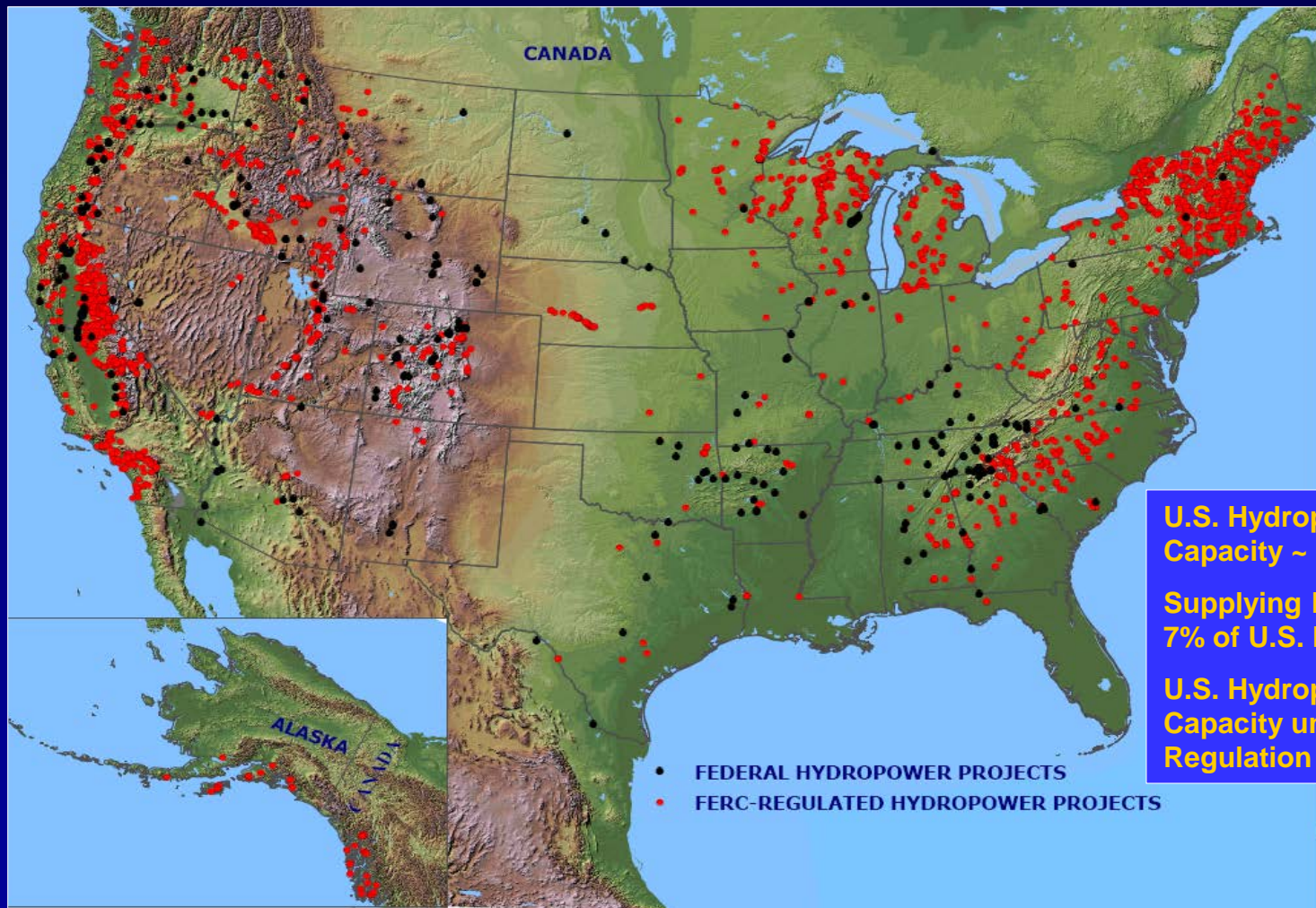
Federal Energy Regulatory Commission



- FERC Overview
- Statutory Requirements
- Types of Authorizations
- TLP-ALP-ILP Processes
- Alaska Projects



Conventional U.S. Hydropower: Federal and FERC-Regulated



U.S. Hydropower
Capacity ~ 98,000 MW

Supplying Electricity for
7% of U.S. Demand

U.S. Hydropower
Capacity under FERC
Regulation ~ 54,000 MW



Hydropower Program





FERC Authorizations

- **Preliminary permit** – gives priority of application while studying project (3 yrs)
- **Conduit and 5 MW exemption** – to construct and operate a project (in perpetuity)
- **License** – to construct and operate a project (up to 50 yrs)



Preliminary Permit

- A preliminary permit maintains priority over a site while developer studies the feasibility of the site and prepares a development application
- Issued for three years
- Six month progress reports are required
- Entities may file competing preliminary permit or development applications
- Preliminary Permits DO NOT authorize construction.

Conduit Exemption



- Issued in perpetuity
- 15 megawatts or less for non-municipal projects and 40 megawatts or less for municipal projects
- Conduit constructed primarily for non-power purposes
- Power facility located entirely on non-federal lands
- Subject to mandatory fish and wildlife conditions (section 30(c) conditions)
- Categorically exempt from NEPA, although EA needed in some circumstances
- Boundary is only around power facility

5 MW Exemption

- Issued in perpetuity
- 5 megawatts or less
- If the project exists, must add capacity
- Built at an existing dam or use a natural water feature
- Subject to mandatory fish and wildlife conditions (section 30(c) conditions)
- Require NEPA analysis
- Boundary is same as a licensed project (include dam and reservoir)
- Applicant must possess all real property rights at time of filing unless on federal land





Important Statutes

- Federal Power Act
- National Environmental Policy Act
- Coastal Zone Management Act
- Clean Water Act
- Endangered Species Act
- Rivers and Harbors Act
- National Historic Preservation Act
- Energy Policy Act of 2005



Licensing Processes

- Integrated Licensing Process (ILP)-default
 - Traditional Licensing Process (TLP)
 - Alternative Licensing Process (ALP)

Prefiling	Postfiling
<ul style="list-style-type: none">• Consult with interested parties on issues and studies• Gather information• Conduct studies• Prepare license application	<ul style="list-style-type: none">• Seek comments from interested parties• Prepare EA or EIS and seek comments• Weigh all information in record before Commission decision

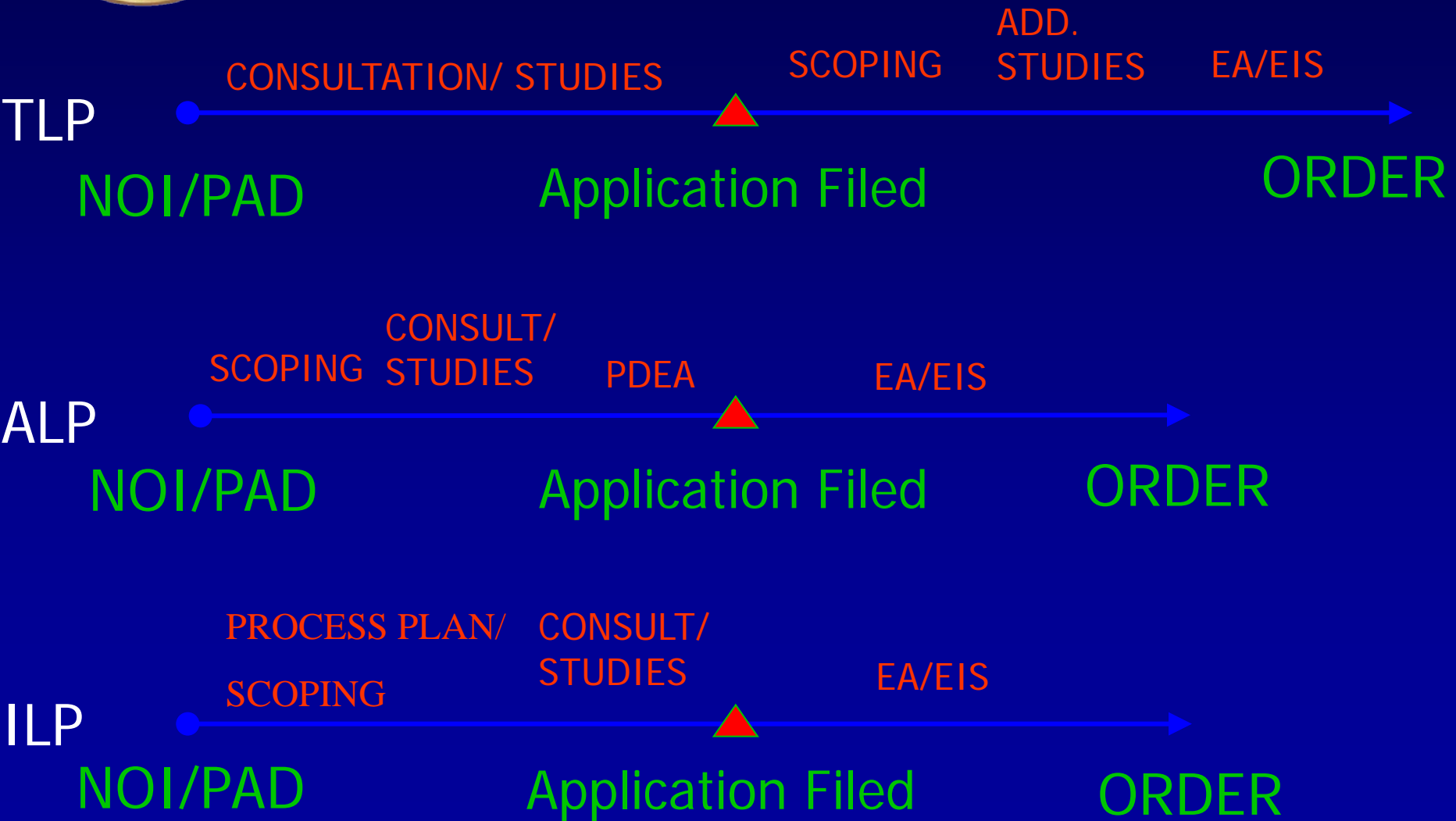


Integrated Licensing Process





Licensing Process Comparison





Commercial Licensing Process Comparison

	TLP	ALP	ILP
Consultation	Paper	Collaborative	Integrated
FERC Involvement	Post-filing	Pre-filing: Requested	Pre-filing: Sustained
Deadlines	<u>Pre-filing</u> Some <u>Post-filing</u> Defined by FERC	<u>Pre-filing</u> Collaboratively defined <u>Post-filing</u> Same as TLP	All participants throughout process, including FERC



Commercial Licensing Process Comparison

	TLP	ALP	ILP
Study Plan Development	Applicant No FERC involvement	Collaborative group FERC assistance	Study plan meetings FERC approved
Study Dispute Resolution	Formal: Advisory Informal: No	Formal: Advisory Informal: Yes	Formal: Mandatory agency Informal: Yes



Commercial Licensing Process Comparison

	TLP	ALP	ILP
Application	Exhibit E	APEA or 3rd party EIS	PLP or Exhibit E follows EA format
Additional Information Requests	Post-filing	Pre-filing Post-filing limited	Pre-filing No Post-filing study requests
Timing of Resource Agency Terms and Conditions	60 days after REA Schedule for final	60 days after REA Schedule for final	60 days after REA Modified 60 days after due date for comments on draft NEPA document



Hydrokinetic Device Testing (no FERC license)

Verdant Power, LLC

April 2005



Photo from Verdant

Maine Maritime Academy

March 2010



Photo from MMA



Experimental technology



Short term deployment



No grid connection



Pilot Project License

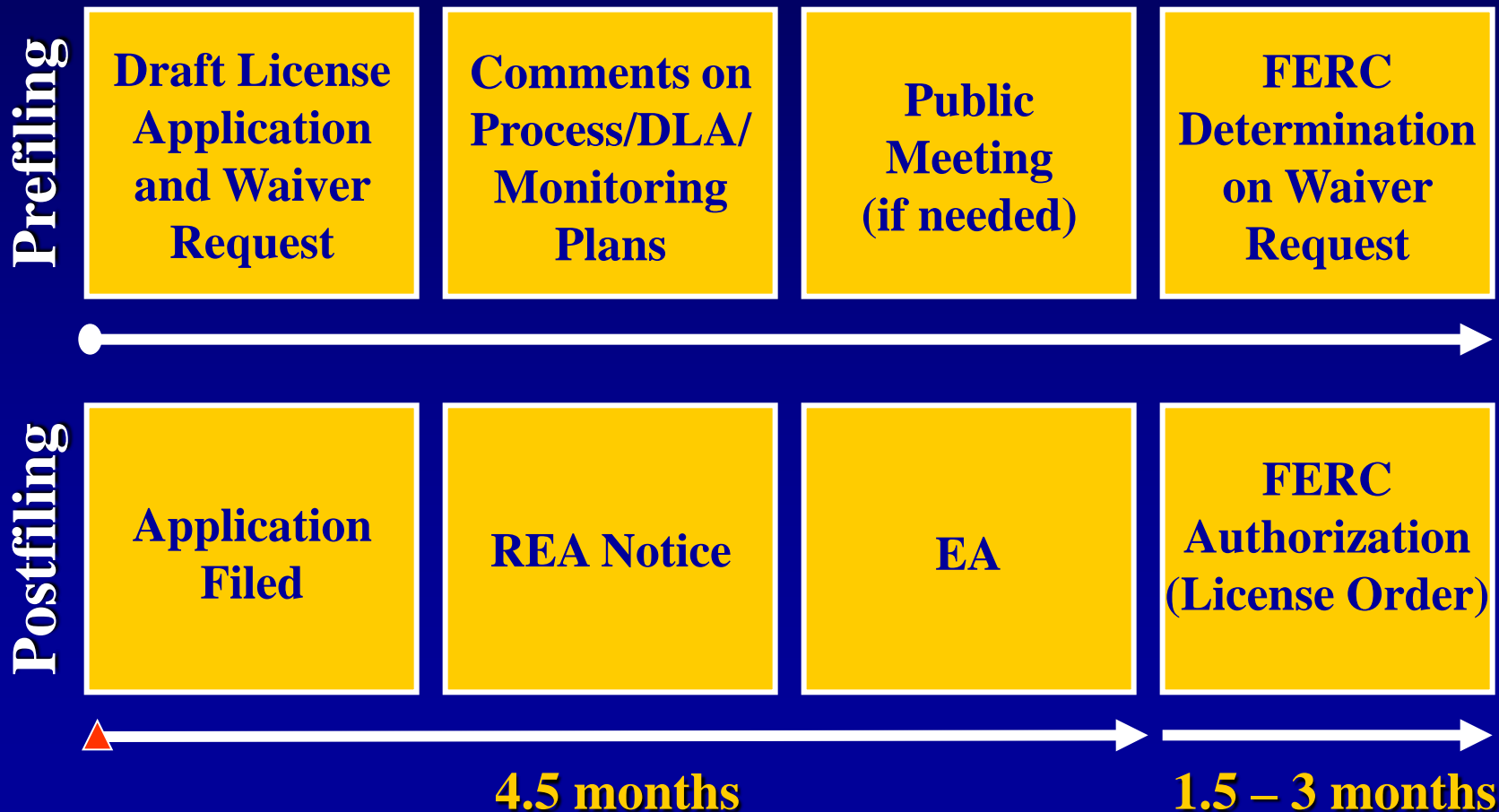
- Small, short term, removable projects
- Test technology and/or evaluate sites
- Protect the environment
 - Short license term and small footprint
 - Post-license monitoring
 - Project shutdown or removal if harm
- Process license applications in as few as 6 months



Pilot Project License

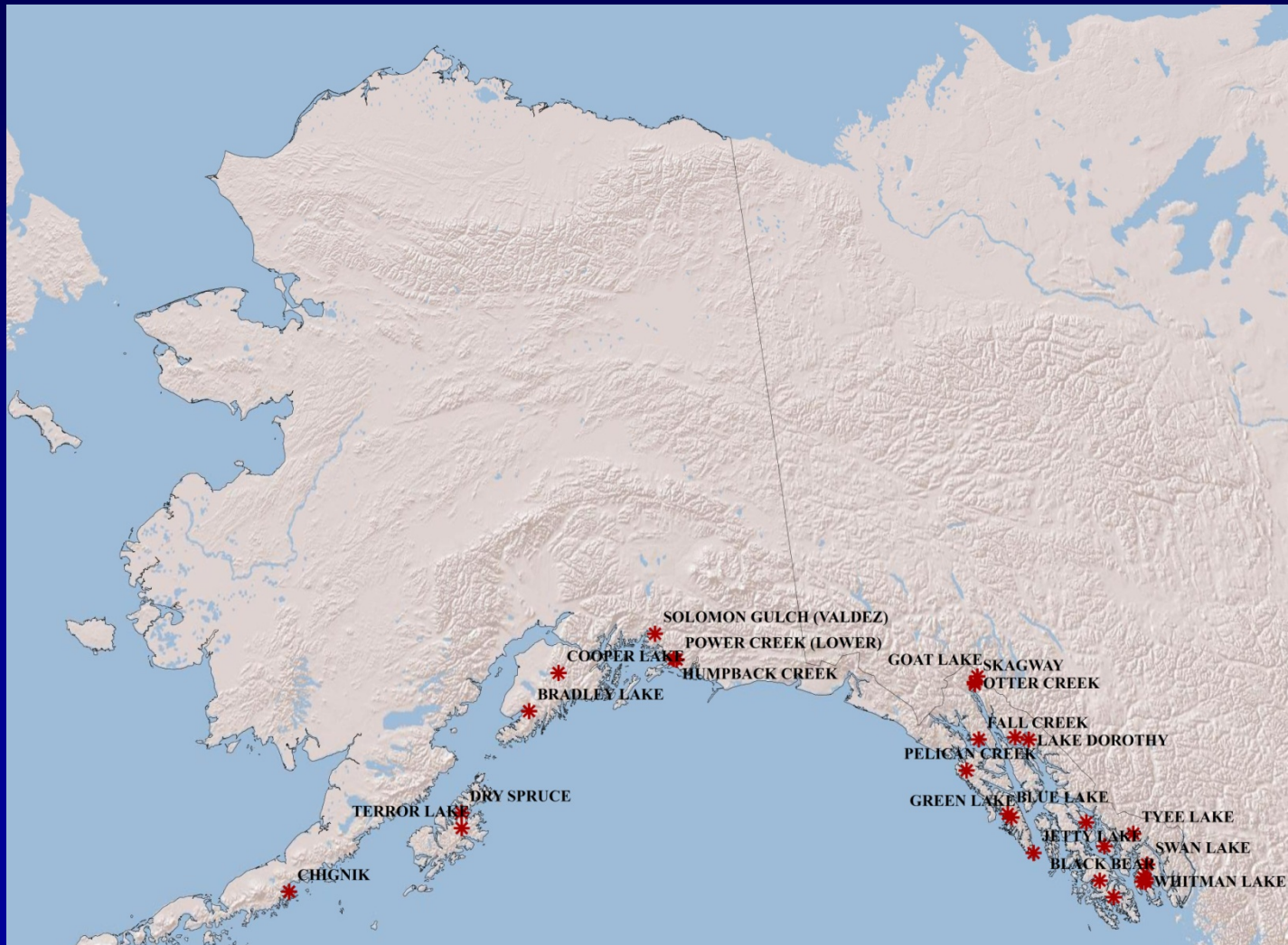
From the Integrated Licensing Process (ILP)

Guidance and Checklist available at www.ferc.gov



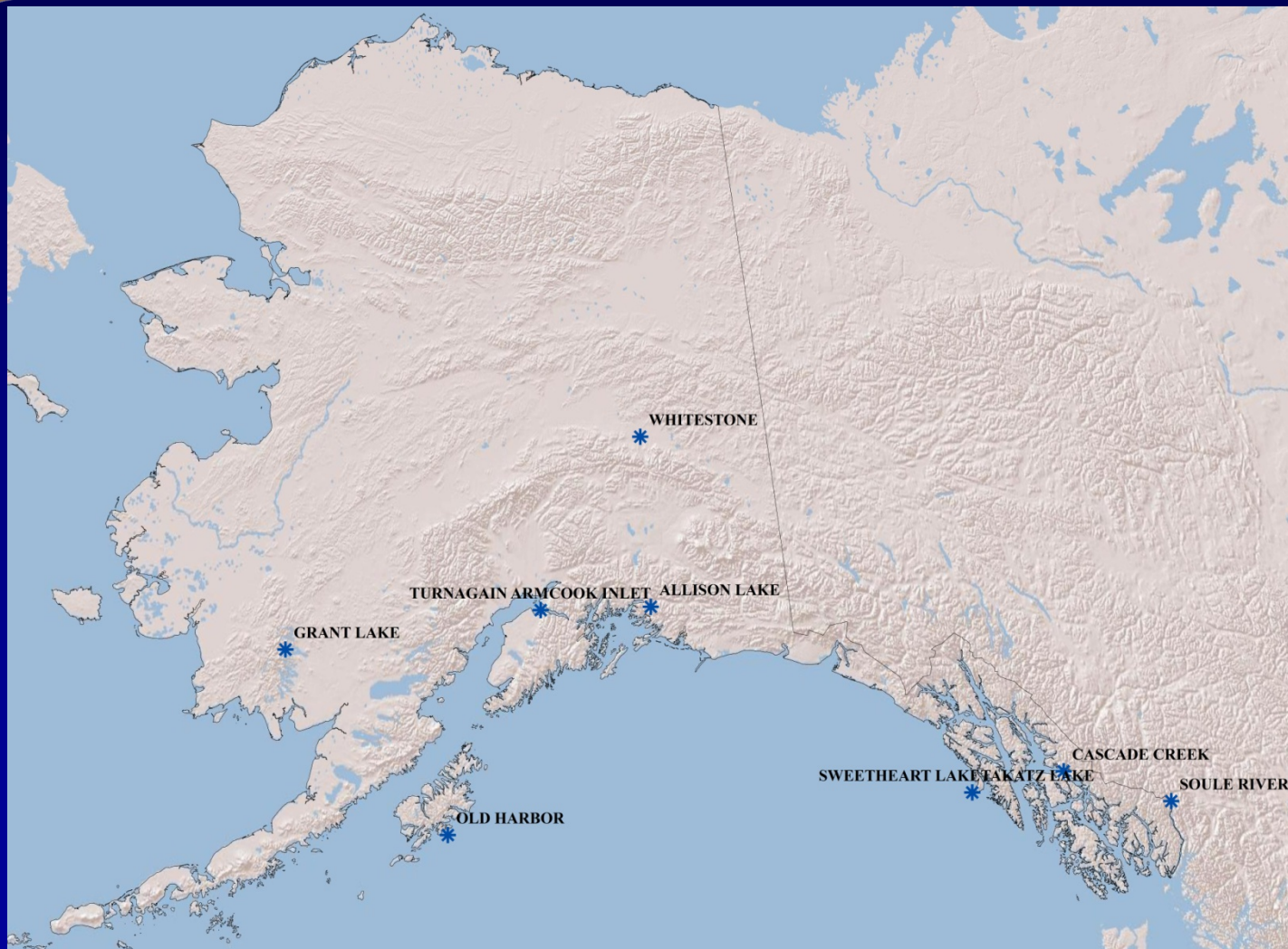


Alaska Licenses





Alaska Pre-Filing





www.ferc.gov

Questions?



Tax Incentives for Alaska Hydro Projects

Presented by:

Gregory F. Jenner
Stoel Rives LLP

gfienner@stoel.com
612-373-8857

to the

**National Hydropower Association
Alaska Regional Meeting**





Stoel Rives is pleased to announce that it has received a *National First-Tier* ranking for its **Energy Law practice**, an honor achieved by only a select number of law firms in the country.

The annual *U.S. News & World Report-Best Lawyers "Best Law Firms"* rankings are based on a comprehensive survey of clients, attorneys and marketing professionals.

- In 2010, the survey generated over 26,000 responses, including a response from every Fortune 100 company.



Stoel Rives is pleased to announce that it has received a ***national ranking*** for its **Renewables and Alternative Energy practice**, an honor reserved for very few law firms across the country.



Chambers USA: America's Leading Lawyers for Business annual rankings are a result of extensive independent research conducted among in-house counsel, corporate executives and leading attorneys.

Tax Exempts and Governments

- Tax incentives don't help if you don't pay taxes
- Tax exempt entity leasing rules (the "Pickle rules") make it impossible for tax exempts and governments to effectively "monetize" available incentives
- What to do, what to do?
 - CREBs (Clean Renewable Energy bonds) enacted as part of ARRA have already been exhausted
- Enter the pre-paid service contract
- Allows "Exempts" to benefit from tax subsidies



Pre-Paid Service Contracts

- Confluence of three tax issues:
 - Service contracts
 - Tax exempt financing
 - Deferral of tax
- Allows “Exempts” to derive benefits from tax incentives otherwise unavailable

Prepaid Service Contracts (con't)

- Advantages for “Exempts:”
 - Closely approximates ownership
 - Discounts in pricing of electricity (thru use of tax incentives)
 - Cheaper borrowing costs
- Advantages for Developers:
 - Fills gaps in financing structure
 - Tax equity
 - Debt
 - Real equity
 - Pre-payment serves as “soft equity”
 - Treated as a liability
 - Less stringent defaults

What is a Service Contract?

- Pickle rules are triggered by ownership or lease (use)
- If done correctly, however, an arrangement that looks very similar to a lease can be structured as a “service contract:”
 - Exception applies to “alternative energy facilities”
 - Four deadly sins (to be avoided):
 - Offtaker cannot operate the facility
 - Offtaker cannot bear significant financial risk for non-performance
 - Service recipient cannot benefit from cost savings
 - No fixed price purchase option other than at FMV

Tax Exempt Financing

- “Private use” regulations permit tax exempt financing for purchases of electricity
 - Made by or for government-owned utilities
 - At least 90% of electricity used:
 - To furnish retail electric customers of issuing utility who are located in service area; or
 - By a government-owned utility to which the electricity was sold and furnished to its retail customers located in service area
- Actually purchasing electricity
 - Not project financing
 - No credit enhancement may be needed

Tax Deferral

- Normal rule is cash payment is taxable on receipt
- Possible exception to the rule for “advance payment for ‘goods’”
 - Not later than when included in gross receipts for financial accounting and shareholder reporting purposes (i.e. books must match tax)
 - Electricity treated as a “good” for this purpose
- Additional special rule for “inventoriable” goods
 - Two year limit on deferral if two conditions apply:
 - Advanced payment = “substantial advanced payment”
 - Producer has inventory on hand or available



Tax Deferral (con't)

- What is “substantial advanced payment?”
 - Equals or exceeds expected cost to supply electricity
 - Includes depreciation of generating property
 - Comparison of prepayment to costs allocated to prepayment
- Inventory on hand or available
 - Intended to prevent abuses
 - Electricity contracts different
 - Electricity cannot be stored
 - Must be available or on hand “to satisfy the agreement” – not sufficient to “pre-supply” electricity
- Can only apply to electricity

Putting All Three Together

- The “Exempt” has lower borrowing costs
- By “prepaying,” it provides low cost capital to the developer
- The developer is able to use that lower-cost capital, together with tax incentives, to provide the “Exempt” with cheaper electricity
- The developer can spread the income tax cost over the period to which the prepayment applies
- Prepayment is added to partners’ outside basis



Overview of Tax Benefits

- Production Tax Credit (“PTC”)
- Investment Tax Credit (“ITC”)
- Treasury Department Grant
- Accelerated Depreciation (“MACRS”)
- CREBs
- New Markets Tax Credit (“NMTC”)



Production Tax Credit

- Based on amount of electricity produced from qualified resource and sold to unrelated person during each year of credit period
 - Credit rate adjusted for inflation each year
 - Credit rate for 2011 is 2.2¢ per kilowatt hour
- Credit Period – 10-year period beginning with “placed-in-service” date

Production Tax Credit

- Qualified resources include:
 - Wind
 - Geothermal
 - Biomass
 - Marine and hydrokinetic
 - Qualified hydropower
 - Others

Production Tax Credit

- Electricity must be owned and produced by taxpayer seeking to claim the PTC
 - Maybe no ownership requirement for qualified hydropower
- Facility must be located in the U.S.
- Facility must be placed in service before:
 - January 1, 2014 for everything but wind
 - January 1, 2013 for wind



Production Tax Credit

- Nonrefundable, but can be carried back one year and forward 20 years
- Credit reduced for certain government subsidized financing
- Credit for certain resources, including qualified hydropower and marine and hydrokinetic, reduced by 50%



Qualified Hydropower

- Divided into two categories:
 - Incremental
 - Non-incremental (non-hydropower)
- Incremental:
 - Improvements, additions, etc. to an existing hydroelectric dam placed in service before 8/9/2005.
 - Credit based on the “incremental hydropower production” for the taxable year (defined as ...)



Qualified Hydropower

- The percentage of annual hydropower production attributable to “efficiency improvements or additions to capacity” placed in service after 8/8/2005.
- Determined by using the same water flow information used to determine an historic average annual hydropower production baseline for that facility
- Baseline and incremental percentage certified by FERC
- Incremental percentage cannot be based on operational changes not directly associated with efficiency improvements or additions to capacity
- **Non-Incremental (Non-hydropower)**
 - The hydropower project installed on a ...

Qualified Hydropower

- Non-hydropower facility that is ...
- Licensed by FERC and ...
- Meets all other environmental, licensing and regulatory requirements (including fish), and that was ...
- Placed in service before 8/8/2005, is
- Operated for flood control, navigation or water supply purposes,
- Did not produce hydroelectric power on 8/8/2005, and
- Is operated so that water surface elevation that would have occurred in the absence of the project is maintained, subject to licensing requirements, etc.



Marine and Hydrokinetic

- Four categories:
 - Waves, tides and currents in oceans, estuaries and tidal areas
 - Free-flowing water in rivers, lakes and streams
 - Free-flowing water in irrigation systems, canals, or other man-made channels
 - Includes non-mechanical structures to accelerate water flow for production of electricity
 - Differentials in ocean temperature

Marine and Hydrokinetic

- Does not include power produced from:
 - Dams
 - Diversionary structures (other than those described previously), or
 - Impoundment
 - Pumped storage
- Must have nameplate capacity of 150 Kw+
- Must be owned by the taxpayer
- Placed in service after 10/3/2008

Investment Tax Credit

- Based on the cost of qualifying equipment
 - Generally 30% of tax basis
 - Credit is claimed entirely in the year in which property is placed in service
- To qualify, property must be “energy property”
- “Energy property” includes solar, geothermal, and certain PTC-eligible property for which an election is made



Investment Tax Credit

- Facility must be placed in service by taxpayer
- Before the applicable credit termination date:
 - January 1, 2013 for wind
 - January 1, 2017 for solar
 - January 1, 2014 for most other types of projects
- Property must be eligible for depreciation (not buildings or structural improvements) and must be an integral part of facility



Investment Tax Credit

- Nonrefundable but can be carried back one year and forward 20 years
- Basis of property reduced by 50% of ITC
- Recapture if disposed of within 5 years
- No cutback for subsidized financing
- More value (relatively) for more expensive, lower producing facilities
- Same credit rate for all renewables



1603 Grant

- Section 1603 - election to receive cash grant
- Eligibility requirements for the ITC apply
- Project generally must be:
 - Placed in service in 2009, 2010 or 2011, or
 - Construction must begin before 2012 and project must be placed in service by credit termination date
- Application due no later than September 30, 2012



1603 Grant

- Grant generally operates in the same manner as ITC
 - 30% of tax basis of qualifying property (10% for certain projects)
 - Subject to recapture if sold to disqualified person within 5 years (different than ITC)
 - Generally not included in recipient's taxable income
 - Basis reduced by 50% of grant amount

1603 Grant – Beginning Construction

- To qualify, must “begin construction” before 1/1/2012
- Two alternative ways to qualify:
 - “Physical work of significant nature”
 - 5% safe harbor -- costs “paid or incurred”
- Remarkable amount of confusion!
- Start planning **NOW!!!!** Very unlikely it will be extended again.

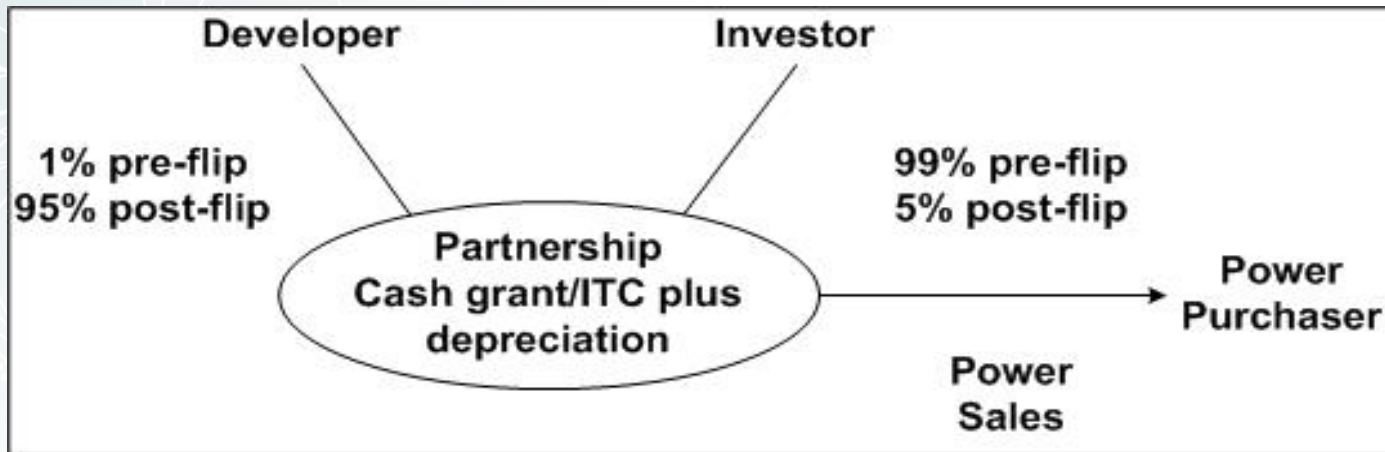


Depreciation

- Bonus Depreciation:
 - For projects placed in service after September 8, 2010 and before January 1, 2012, 100% bonus depreciation in first year
 - For projects placed in service in 2012, 50% bonus depreciation in first year
- MACRS:
 - Wind and solar qualify for 5-year MACRS
 - Others generally qualify for 7-year MACRS
- Valuable losses for investor

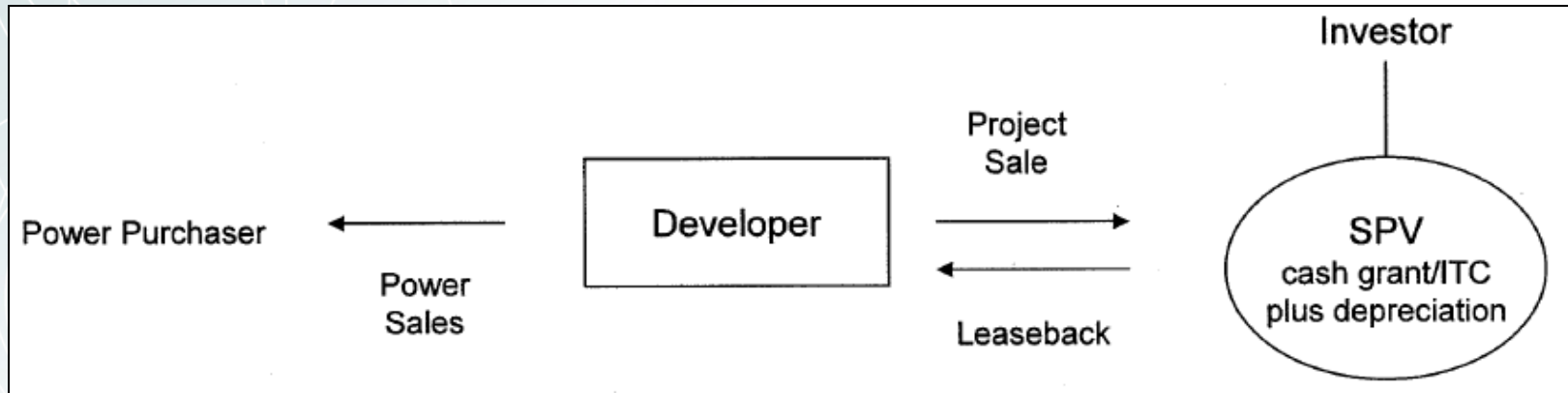


Partnership Flip



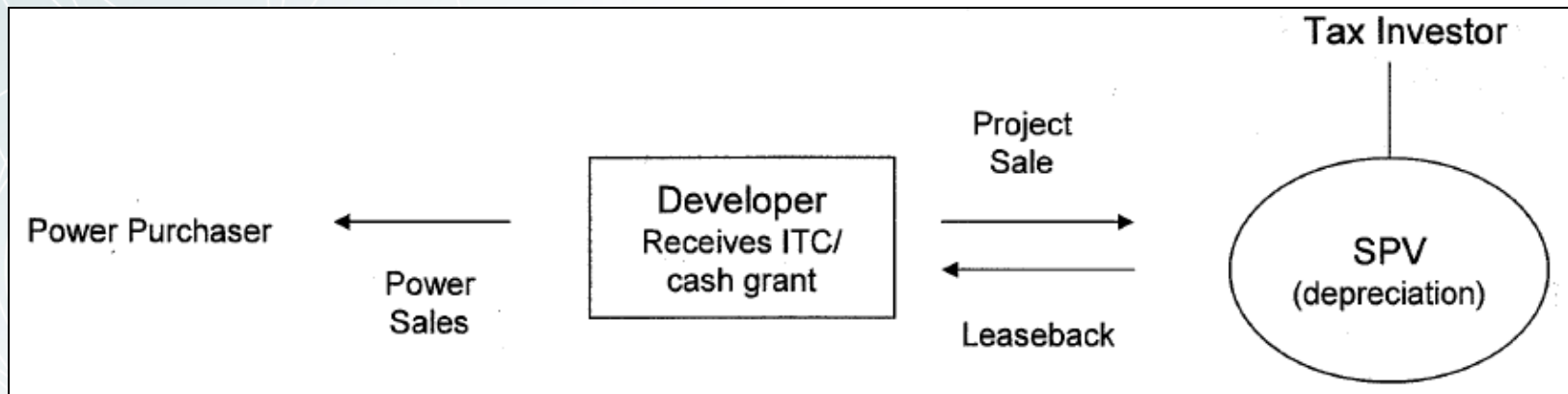
- Investor receives cash grant/ITC/PTC plus depreciation
- Flip occurs after investor receives IRR but not within first five years
- Developer generally has purchase option after flip

Traditional Sale-Leaseback



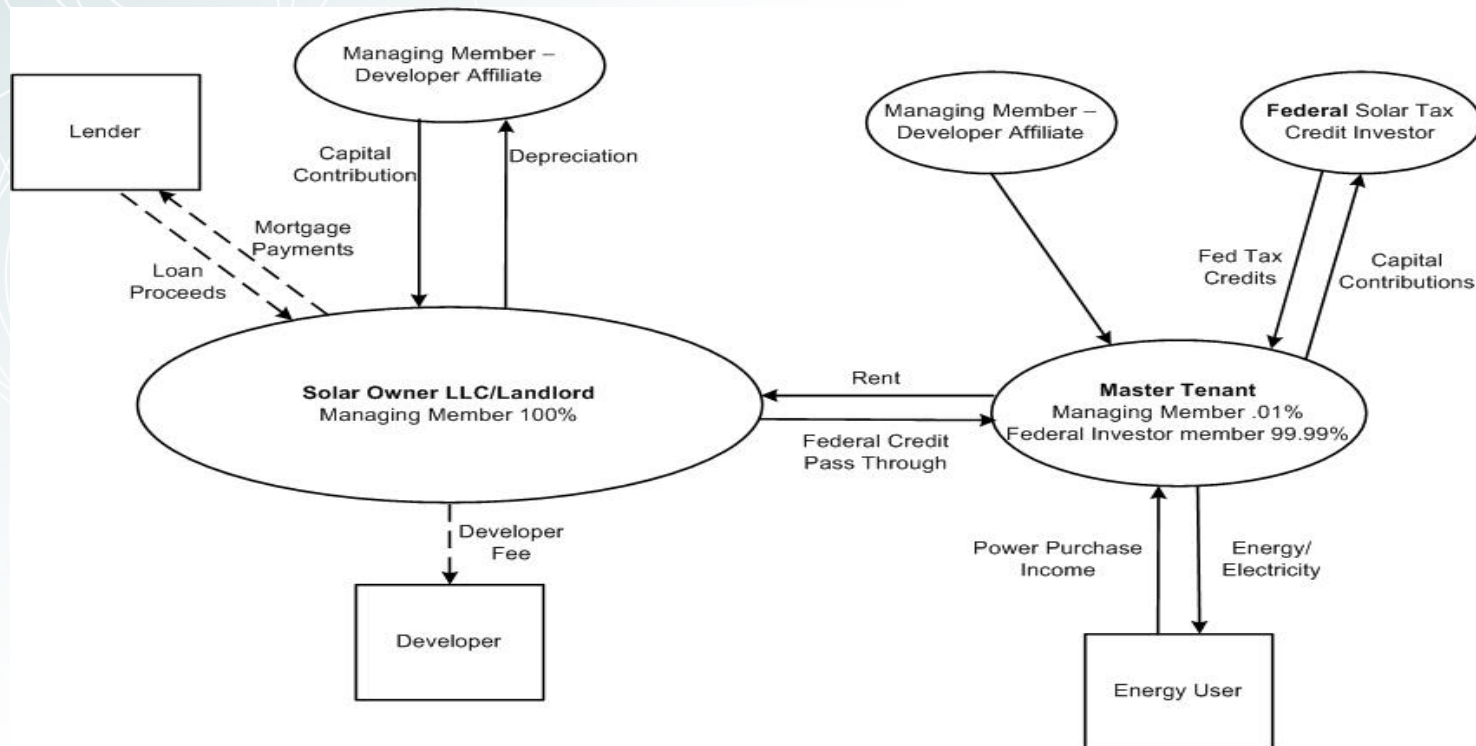
- Developer generally has option to acquire property at end of lease term
- Lease must qualify as true lease for tax purposes
 - Minimum investment – 20%
 - No put right by lessor
 - No lessee investment
 - No lessee loans or guarantees
 - Lessor profit

Modified Sale-Leaseback

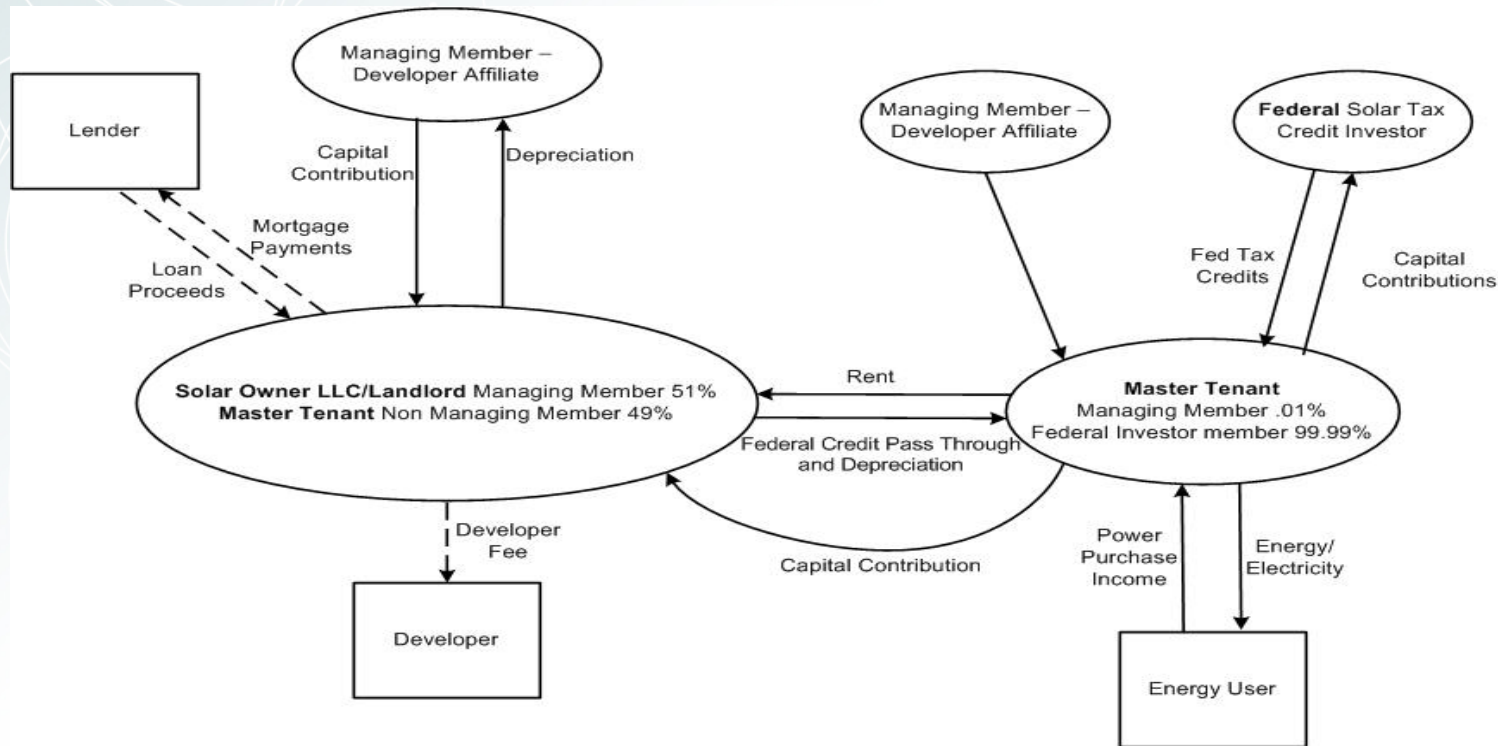


- No basis reduction as a result of ITC/cash grant
- Developer must take half the credit/cash grant into income over five year period
- Lease must qualify as true lease for tax purposes
- Lease must qualify for credit pass through election

Inverted Lease



Inverted Lease with Sharing of Depreciation



CREBs

- Taxable bonds to finance renewable energy
- Issued by governments, public power providers and energy coops
- Bond purchaser receives federal tax credit (treated as interest income)
- Total of \$2.4B authorized, divided equally between three categories of issuers
- Unclear how much remains unallocated



New Markets Tax Credit

- In the law since 2000
- Previously used mostly for commercial real estate and manufacturing
- Now being considered as a source of low cost capital for renewable facilities



NMTC Outline

- NMTC Basics
- Base Case model
- Leveraged Model
- “Twinning” with other incentives
- Examples
- Mechanics



The Language of NMTCs

- CDFI Fund:
 - Community Development Financial Institutions Fund
- CDE:
 - Community Development Entity
- LIC:
 - Low Income Community
- QEI:
 - Qualified Equity Investment

NMTC Language (con't)

- QLIC:
 - Qualified Low Income Community Investment
- QUALIC-B:
 - Qualified Low Income Community Business
- Allocatee:
 - The organization to which NMTCs are “allocated” by CDFI (often synonymous with CDE)

NMTC Basics

- CDFI allocates NMTCs to CDE
- NMTCs are tax credits equal to 39% of QEI spread over 7 years (5%, 5%, 5%, 6%, 6%, 6%, 6%)
- Investor makes QEI in CDE (or affiliate) in exchange for tax credits
- QEI = equity investment in or loan to CDE

Basics (con't)

- CDEs are intermediaries
 - Primary mission to serve or provide investment capital for LICs
 - Required to use 85% or more of QEI
 - To make QLICI to QALIC-B
 - QLICI must remain in place for 7 years
 - Recapture
 - No amortization or prepayment
 - Return on capital OK

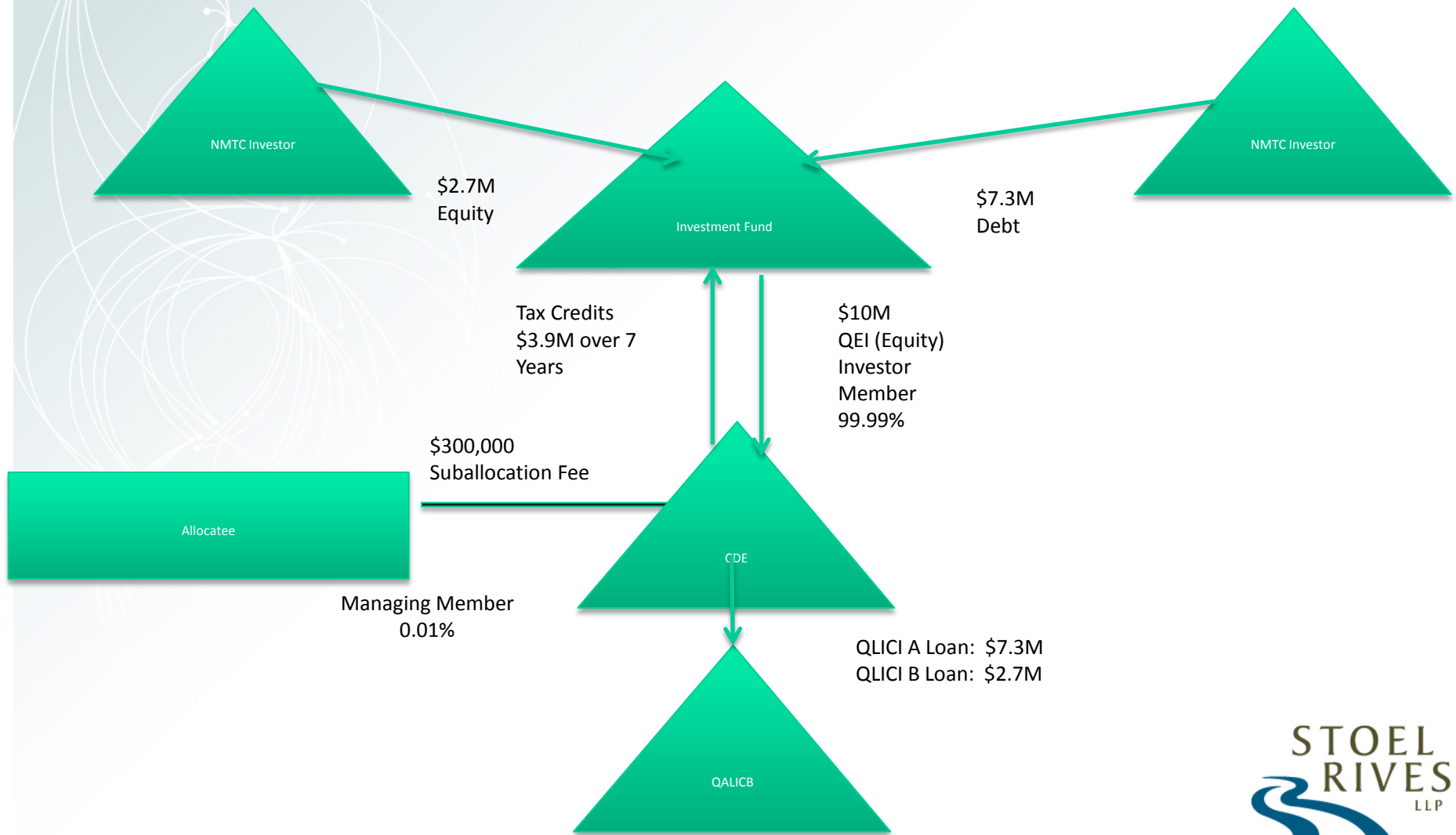
QALIC-Bs

- Corporation or partnership
 - Active business – will generate revenue w/i 3 years
 - Meeting these five criteria:
 - 40%+ use of tangible property w/i LIC
 - 40%+ of services by employees w/i LIC
 - 50%+ of gross income from active business w/i LIC
 - Non-qualified Financial Property – less than 5%
 - Collectibles – less than 5%

Base Case Model

- Investor receives NMTCs equal to 39% of QEI
- NMTCs allow reduced rate of return on funds and, potentially, foregone repayment of portion of principal (depending on transaction)

Leveraged Loan Model



Leveraged Loan Model

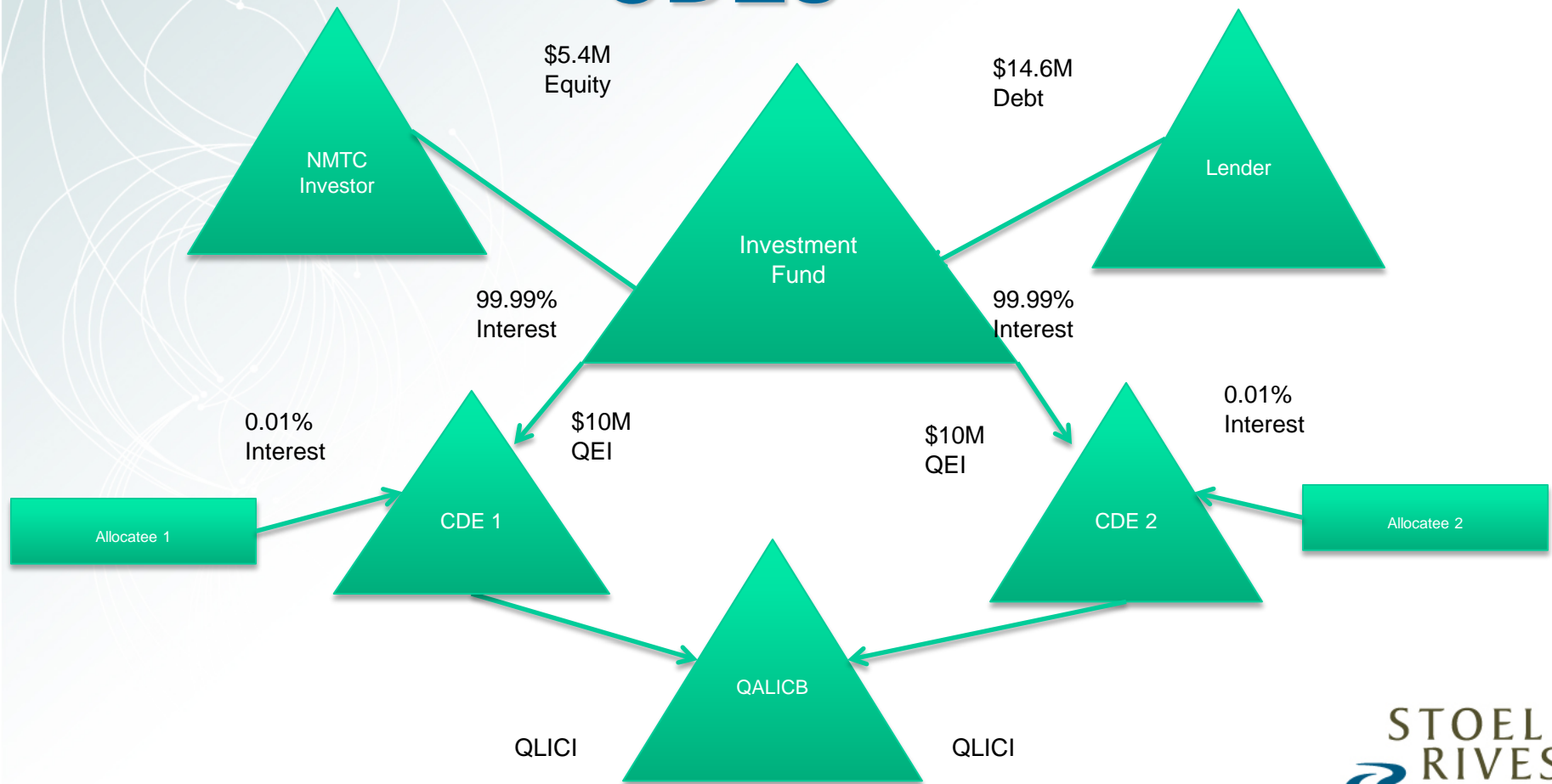
- Blessed in Rev Rule 2003-20
- Allows leveraged loan to be taken into account in computing QEI/NMTCs
- “A” Note:
 - Tracks leveraged loan to Investment Fund
 - Market interest rate (or at least AFR)
 - Paid off or refinanced after 7 years

Leveraged Loan Model (con't)

- “B” Loan:
 - Equal to NMTC equity net of fees
 - Below market interest rate
 - “Forgiven” after 7 years:
 - Put right of Investor at de minimis price after year 7;
or
 - Call right of QALIC-B to purchase Investor’s equity
at FMV after year 7
 - No security interest in QALIC-B



Leverage Model – Multiple CDEs



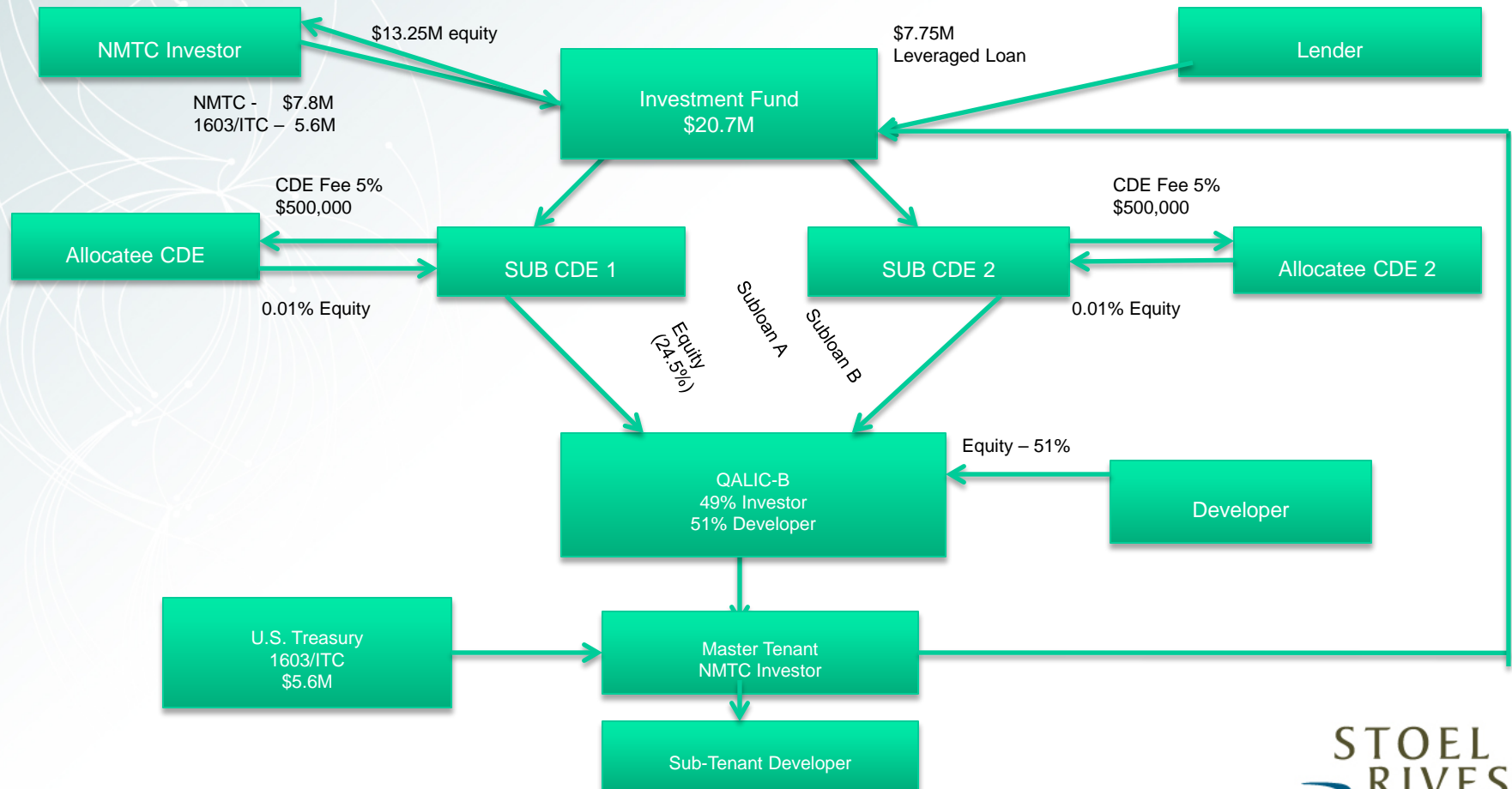
Leveraged Loan Model – Multiple CDEs

- Large transactions may be too big for one CDE
- Additional complexity and expense

“Twinning” with Other Incentives

- State and local loan guarantees
- 1603 Grant, ITC or PTC
 - No reduction in NMTCs for 1603 Grant or ITC
 - Reduction for PTC
- Sharing of Accelerated/Bonus Depreciation

Twinning NMTCs and 1603/ITC



What Does the Future Hold?

- Deficit reduction fight
- New “Super Committee”
- Fundamental tax reform?
- Attitude toward 2009 Stimulus bill
- Expiration of PTC, ITC and 1603
- S. 631 – The Hydropower Renewable Energy Development Act of 2011 (Sen. Murkowski)





We wrote the book on renewable energy law...




...in fact, we've written eight of them, plus a blog and a wiki:

www.lawofrenewableenergy.com www.lawofalgae.com

Alaska California Idaho Minnesota Oregon Utah Washington





Humpback Creek Hydroelectric Project FERC #8889

**National Hydropower
Association
Alaska Meeting
August 31, 2011**

03/23 10:40















The October 10-11 2006 Flood at Humpback Creek was calculated by three different methods to have exceeded 1800 cfs. The Original Project was designed for 1650 cfs. The event was calculated by Hydrologists to be a once in 3,500 year occurrence event. CEC measured 19" of rainfall in 24 hours at the Orca Plant. Rainfall is estimated to have exceeded 24" in the Humpback Creek basin, or in excess of 2 billion gallons of water. Power Creek was estimated to exceed 8,000 cfs during this event. Despite a design capacity of only 7,000 cfs, the Power Creek Project escaped with minor damages of less than \$150,000. The new HBC projects is designed for maximum flow of over 1850 cfs before the weir is topped, but can withstand much more.

Project Challenges:

- Little Big Project
- Regulatory
- Geology
- Hydrology
- Financing
- Construction
- So Why Rebuild?



Little Big Project

- *Remote Location*
- *No Access to Dam Site*
- *Poor Rock Quality*
- *Remnant Projects*
- *Environmental Concerns*
- *Fierce Hydrology*
- *Cost inverse to Size*

2011/03/05 11:52



FEMA

A Venn diagram with two overlapping circles. The left circle is outlined in dark red and contains the text 'FEMA'. The right circle is outlined in dark blue and contains the text 'FERC'. The intersection of the two circles is outlined in both colors and contains the text 'CEC' stacked vertically. The background is a photograph of a river with rapids and a fallen log.

**C
E
C**

FERC



WHERE'S THE GOOD ROCK?

Pocket Shock

- Capitally Intensive
- Long ROI
- Market Force Headwinds
- Risky
- HBC – FEMA, SOA, CEC



















Spillway Waiting for Gate

2011/04/11 10:26







Humpback Creek Summary:

- 60%-100% More MWh
 - Lower M&O Costs
- Long Life – 50-100 Years
 - Total Cost: \$21M
- Offsets to 370,000 gallons diesel
- CEC 80% hydro and cuts \$1.4M fuel
- Certified Renewable



FERC 101/Alaska

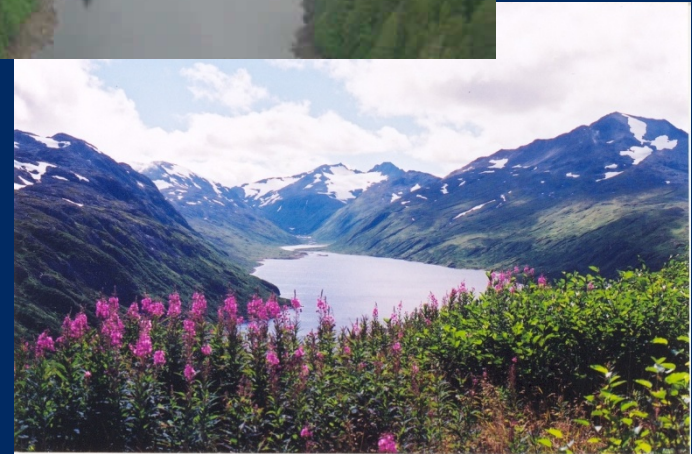
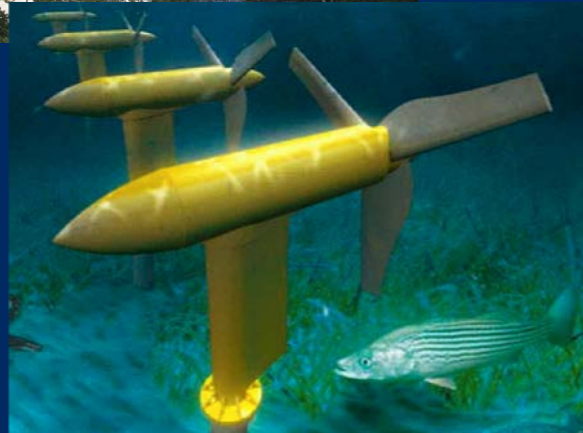
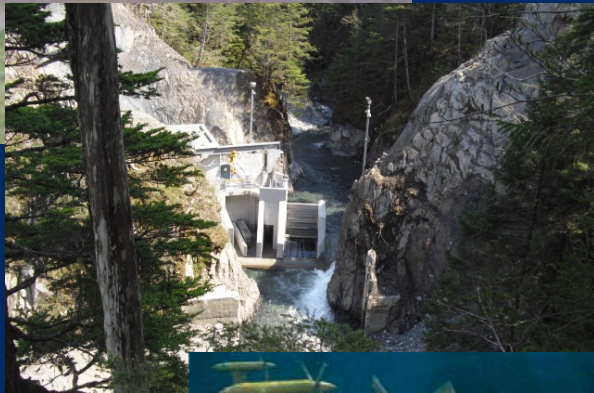
Jurisdiction Under Part I of the Federal Power Act

Chuck Sensiba
Member, Washington, D.C.

August 30, 2011
Girdwood, Alaska

Does Your Hydro Project Require a FERC License or Exemption?





Jurisdictional Overview



- Under FPA § 23(b)(1), a non-federal hydropower project is subject to FERC's mandatory jurisdiction if any of the following applies:
 - The project occupies "public lands" or "reservations" of the United States; or
 - The project is located on "navigable" waters; or
 - The project is located at a federal dam; or
 - The project underwent "construction" after Aug. 26, 1935, is located on a "Commerce Clause" waterway, and affects interstate commerce.
- Narrow Exception: "Grandfathered" projects operating under a still-valid pre-1920 federal permit.

Public Lands and Reservations



- FPA jurisdiction is triggered if any portion of a hydropower project occupies “any part of the public lands or reservations of the United States.” 16 U.S.C. § 817(1). The “project” is defined as the “complete unit of improvement or development” and includes:
 - Powerhouse; dam, dikes, and civil works; reservoirs; primary transmission line; and all lands necessary for “project purposes.”
- Under the FPA, most federally owned lands qualify as “public lands” or “reservations”:
 - National forests; Indian reservations; military reservations; and federally owned lands subject to disposal under the public land laws.
- Exceptions—FERC does not have jurisdiction to issue license for projects located within:
 - National parks (including most private lands within the boundary of any unit of the National Park System);
 - National monuments;
 - Wild and Scenic rivers; or
 - Wilderness areas.
- Alaska Focus: “Power Site Reservation”
 - Formerly federal lands transferred in fee to State (typically under Alaska Statehood Act), but subject to a FPA Section 24 power site reservation.
 - FERC precedent holds that the power site reservation alone triggers mandatory FPA jurisdiction.
 - *Petersburg Mun. Power & Light*, 82 FERC ¶ 61,031 (1998) (Blind Slough);
Ak. Power & Tel. Co., 131 FERC ¶ 62,162 (2010) (Connelly Lake).

Navigable Waters



- FPA jurisdiction is triggered if any portion of a hydropower project is located “across, along, or in any of the navigable waters of the United States.” 16 U.S.C. § 817(1).
- The FPA imposes a test of navigability in fact, defining navigable waters as those that “either in their natural or improved condition notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce.” 16 U.S.C. § 796(8).
- Use of the waterway “may vary from the carriage of ocean liners to the floating out of logs.” *U.S. v. Appalachian Elec. Power Co*, 311 U.S. 377 (1940).
 - Commercial floatation of shingle bolts.
 - Canoeing and “simpler types of commercial navigation.”
 - Kayaking or other specialized sporting crafts are insufficient, unless provided by commercial rafting companies.
- Waterway must provide a “continuous highway” for interstate or foreign commerce. *The Daniel Ball*, 77 U.S. 557 (1871).
 - Navigable waterways can encompass reasonable improvements and interruptions (e.g., falls, shallows, rapids).
 - Reach of the waterway in which hydro project is located must be navigable.
 - Waterway must be used or suitable for supporting commerce at interstate or foreign boundary.

Federal Dams



- FPA jurisdiction is triggered if the hydropower project uses “the surplus water or water power from any Government dam.” 16 U.S.C. § 817(1).
- Typically, this jurisdictional element encompasses projects constructed at federal facilities operated by the U.S. Army Corps of Engineers and U.S. Bureau of Reclamation.
- Alaska Focus: Federal Dams
 - Not a significant factor in Alaska.
 - Few federal dams in Alaska (e.g., Moose Creek Dam, Chena River).

Post-1935 Construction on Commerce Clause Waters



- FPA jurisdiction is triggered for projects that: (1) undergo construction after the 1935 amendments to the original 1920 Federal Water Power Act; (2) are located on Commerce Clause waterways; and (3) affect interstate or foreign commerce. 16 U.S.C. § 817(1); *Farmington River Power v. FPC*, 455 F.2d 86 (2d Cir. 1972).
- Post-1935 construction: Issue only at projects originally constructed before 1935.
 - General rule: Repairs, even substantial repairs, that merely restore a project to its pre-1935 specifications are not post-1935 construction. Post-1935 construction does not include repairs or improvements that “do not increase a project’s head, generating capacity, or otherwise significantly modify the project’s pre-1935 operation.”
 - Exception: If a project was abandoned, most post-abandonment restoration or repairs constitute post-1935 construction.
- Commerce Clause waterways
 - Commerce Clause waterways are non-navigable tributaries to navigable waterways.
- Effect on Interstate or Foreign Commerce
 - The project must have a “real and substantial effect” on interstate or foreign commerce individually, or as a class of projects with such effect.
 - Interconnection to the interstate electric grid satisfies this requirement.
- Alaska Focus: Effect on Commercial Fisheries
 - A project’s impact on commercial fisheries can constitute an effect on interstate commerce for the purposes of establishing FPA jurisdiction *U.S. Dep’t of Commerce v. FERC*, 36 F.3d 893 (9th Cir. 1994); *Alaska Power & Tel. Co.*, 101 FERC ¶ 61,191 (2002).

Hydrokinetic Technologies



- FERC has held that the FPA jurisdictional analysis for conventional hydropower projects applies to marine and hydrokinetic (MHK) projects.
 - FERC has held that a buoy-type generating project is a hydropower project for purposes of the FPA. *AquaEnergy Group, Ltd.*, 102 FERC ¶ 61,242 (2003).
 - This determination has not been judicially tested.
- FERC has held that oceans, including both territorial seas and the Outer Continental Shelf (OCS), are “navigable waters” for purposes of FPA jurisdiction. *Pac. Gas & Elec. Co.*, 125 FERC ¶ 61,045 (2008).
- Dual federal jurisdiction of MHK technologies in OCS waters:
 - Territorial Seas (generally 3-miles from coast): FERC license required.
 - OCS: FERC license and lease from the Bureau of Ocean Energy, Regulation and Enforcement required.

Enforcement of FPA Jurisdiction



- Declaration of Intent: Formal proceeding before FERC prior to project construction, in which FERC determines the jurisdictional status of the proposed project. 16 U.S.C. § 817(1).
- FERC Investigation and Orders: Based on reports from federal and state resource agencies or members of the public, FERC can investigate the jurisdictional status of unauthorized projects.
- Shut-Down Order: Upon a finding that a FPA jurisdictional facility is being operated without a required FERC-issued license or exemption, FERC can issue a shut-down order, which can be enforceable in U.S. district court. 16 U.S.C. § 825p.
- Criminal Penalties: Willful and knowing violations of the FPA are subject to fines of up to \$1 million, imprisonment for up to 5 years, or both. 16 U.S.C. § 825o(a).
- Civil Penalties: FERC's authority to impose civil penalties (of up to \$11,000 per violation per day) extends only to licensees, permittees, and exemptees. *Wolverine Power Co. v. FERC*, 963 F.2d 446 (D.C. Cir. 1992).

**Even if Your Hydro Project
Doesn't Require FERC Licensing,
Do You Want a FERC License?**



"4(e)" or "Permissive" Projects



- FERC licensing of 4(e) projects offers a clear path forward for development through the established FERC process.
- FERC licensing of 4(e) projects preempts burdensome, conflicting state or local requirements.

Conclusions



- Due to regulatory requirements for FPA-jurisdictional projects, a thorough jurisdictional assessment is a necessary early step in the project development process.
- Most non-federal hydropower projects in the United States are subject to the FPA's mandatory licensing jurisdiction.
- Unique circumstances in Alaska (e.g., no interstate electric grid) can result in some FPA jurisdictional gaps for hydropower projects on Commerce Clause waterways.
- Determining the FPA jurisdictional status of a hydropower project is a highly fact-specific inquiry that is governed by FERC and judicial precedent; don't just fill out the FERC form and hope for the best!



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