

Summary of Issues - July 5th Workshop on Compliance Management for Water Power Projects

Issue	Solution		Estimated Timeline	Agency	Lead
Insufficient Coordination	<ul style="list-style-type: none"> EAC conditions reflected in subsequent permits 	<ul style="list-style-type: none"> Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> Enforceable decision to do things Provincially <i>E.g. Water Act Modernization</i> 	Short term	C&E Branch, DFO, EAO, FLNRO, MEM	EAO
	<ul style="list-style-type: none"> Inconsistent use of guidance, policy and procedures 	<ul style="list-style-type: none"> Consistent regional use of policy, guidance and procedures 	Long term		EAO/ FLNRO (template development)
Oversight of Certified Projects (Monitoring and Compliance)	<ul style="list-style-type: none"> Lack of provincial consistency for monitoring and compliance activities 	<ul style="list-style-type: none"> Work with Clean Energy BC on issues and solutions 	Short term	ALL (C&E Branch, DFO, EAO, FLNRO, MEM, IE, IEM)	Brian Murphy/ Heather MacKnight (FLNRO templates)
		<ul style="list-style-type: none"> Provincial consistency for EA conditions that are subsequently addressed in operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs) 	Short term (Template work to be completed by March 31, 2013)		
	<ul style="list-style-type: none"> Ensuring conditions are measurable and enforceable 	<ul style="list-style-type: none"> Annual meeting for lessons learned, knowledge sharing, baseline data etc. (technical focus) 	Short term	ALL	ALL
		<ul style="list-style-type: none"> Compliance management plans (CMPs) → LEAN process Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i> Independent compliance reviewers 	Short term	ENV	EAO & MOE (LEAN)
			Long term	ALL	??
			Short term (Independent compliance)		

			review = During construction and after 2 years operating)		
	<ul style="list-style-type: none"> • Reports from Independent Environmental monitors (IEMs) not being followed up on in post permitting stage 	<ul style="list-style-type: none"> • Online database for reports from independent environmental monitors 	Long term (Following the development of a policy on posting compliance materials)	EAO, FLNRO (MOE → CVIS?)	EAO, MOE, & FLNRO (link into CVIS database?)
	<ul style="list-style-type: none"> • Timely Incident follow-up • Limited staff capacity 	<ul style="list-style-type: none"> • Communication with regions → Communications strategy • Use of security deposits • Roles and responsibilities 	Short term Long term Short term	C&E Branch, DFO, EAO, FLNRO, MEM	FLNRO
Achieving “One Process”	<ul style="list-style-type: none"> • Determining roles and responsibilities to avoid duplicating processes 	<ul style="list-style-type: none"> • Map out processes and define • Staff knowledge base → Training • Qualified persons (QPs) to manage workload 	Short term Long term Short term	ALL	Brian Murphy & Heather MacKnight QP: Brian Murphy to contact Garth Atkins → NR sector
	<ul style="list-style-type: none"> • Lack of coordination 	<ul style="list-style-type: none"> • Eliminate redundancies (different functions from prior restructuring) 	Short term	FLNRO	Brian Murphy & Heather MacKnight
Setting Clear and Enforceable	<ul style="list-style-type: none"> • Instream river flows (ramping rates) ??? 	<ul style="list-style-type: none"> • Measurable and enforceable certificate conditions 	Short term	EAO, FLNRO, C&E Branch	EAO project managers, leads, experts

Requirements	<ul style="list-style-type: none"> Determining what is required for EA vs. non-EA projects 	<ul style="list-style-type: none"> BC Hydro → FOLLOW UP WITH LANCE <i>E.g. Auditing, MOU with the COS</i> Align with EA phases 	???	C&E Branch	Lance?
Reporting	<ul style="list-style-type: none"> Internal compliance reporting Limited capacity to deal with reports 	<ul style="list-style-type: none"> Online submission of independent environmental monitors and environmental monitor reports → Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i> Consolidating, permitting Re: compliance audit process vs. inspection? 	Long term	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry of Finance)</i>	
	<ul style="list-style-type: none"> Need to increase transparency/accountability by reporting out to the public 	<ul style="list-style-type: none"> Develop an overall plan for reporting → Determine the timing and level of detail 	Long term	EAO	EAO to develop policy guidance for EA projects
Risk Management	<ul style="list-style-type: none"> Large number of projects entering the EA and permitting process 	<ul style="list-style-type: none"> Risk management training Risk ranking framework 	Long term	ALL	EAO for EA projects (CMPs risk rank projects)
	<ul style="list-style-type: none"> Variation in approaches 	<ul style="list-style-type: none"> Use of templates to increase consistency 	Long term		
Inconsistent Tools and Templates	<ul style="list-style-type: none"> Varying operational parameters and procedures (OPP), operational environmental management plans (OEMPs) 	<ul style="list-style-type: none"> OPPR, CEMP, OEMP templates Consistency in documents 	Short term (Template work to be completed by March 31, 2013)	FLNRO	Heather MacKnight

DRAFT Action Plan – September 2012

Issue	Action	Timeline	Lead
Insufficient Coordination	• Circulate action plan to workshop participants	Short term	EAO
	• Strike a committee to oversee this project	Short term	EAO
	• Collaborate with other government agencies on compliance management plans (including through MOE/EAO Corporate LEAN project)	Short term	EAO
	• Annually share lessons learnt	Annual	
Inconsistent Tools and Templates	• Develop templates for operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), and construction environmental management plans (CEMPs)	Short term	FLNRO
Non-compliance	• Focus EAC inspections on run of river projects	Short term	EAO compliance staff and FLNRO C&E Staff
	• EAC conditions for new projects: require adaptive management programs for developing instream flow requirements and ramping rates for run of river projects	Short term	EAO
Risk Management	• Develop a staff training plan on managing risks	Long term	
Staff Capacity	• Generate a request for proposals (RFP) to compile a list of qualified professionals (QPs) to help manage workload	Short term	

**Water Power Project
Compliance Management Workshop
July 5, 2012
8:30am – 12:00pm**

1st Floor Boardroom - Environmental Assessment Office, Victoria

Session Objective: A common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues

Time	Agenda Item	Presenter	Duration
8:30	Welcome and introductions (Coffee, tea and muffins provided) Overview of the day: <ul style="list-style-type: none"> Meeting objectives Review of the agenda 	Michelle Carr Sandra Baan & Lisa La Rose (Facilitators)	5 mins 10 mins
8:45	EAO Overview <ul style="list-style-type: none"> Scope of the issue Q's and A's 	Tim Hicks	10 mins
8:55	Water Power Projects & Fish <ul style="list-style-type: none"> What is flow ramping? Compliance case study Q's and A's 	Scott Babakaiff	20 mins
9:15	Brainstorm of Key Issues to Develop a Common Understanding <ul style="list-style-type: none"> Current compliance management approaches and gaps in terms of types of non-compliance Compliance management approaches to prevent/resolve the gaps identified 	All (sticky note exercise)	50 mins
10:05	Coffee Break (Coffee and tea provided)		10 mins
10:15	Recap of Morning and Overview of Next Activity	Sandra Baan & Lisa La Rose	10 mins
10:25	Action Plan Development and Recommendations – Concurrent Sessions on the Front and Back End of Compliance Group action 1 – Technical solutions (<i>e.g., setting requirements, expertise needed</i>) Group action 2 – Process solutions (<i>e.g., government coordination</i>)	All	40 mins
11:05	Report Back to Broader Group <ul style="list-style-type: none"> Group discussion on action plan and key recommendations 	Point person from each group	40 mins
11:45	Next Steps and Roundtable Discussion on Any Outstanding Issues Needing Attention	Tim Hicks/All	15 mins



WATER POWER PROJECT COMPLIANCE MANAGEMENT WORKSHOP BACKGROUNDER

Workshop Information:
July 5th, 2012
8:30am – 12:00pm
EAO 1st Floor Boardroom

Context

Run-of-river hydroelectric projects, or water power projects, divert water flows through turbines to generate power. They provide a renewable, non-polluting source of energy, with relatively stable pricing due to the province's cost-based regulation of rates. Because these projects provide a cleaner way to generate energy than the burning of fossil fuels, the number of water power projects in the province has increased significantly over the past decade. However, despite being a "clean" energy source, water power projects can still significantly impact aquatic and terrestrial environments, as well as cultural and recreational values. To prevent or mitigate potential adverse effects, these projects undergo reviews before approval. The review process for a water power project is dependent upon the size of the project. Projects with a rated nameplate capacity of 50MW or greater are required to undergo an environmental assessment (EA) under the *Environmental Assessment Act*. Currently there are 9 EA certified projects in BC, and 43 operating sub-EA threshold water power projects. Additionally, another 17 water power projects are currently undergoing the EA process. Approximately 50% of these projects are active. The typical layout of a water power project is shown in Figure 1 below.

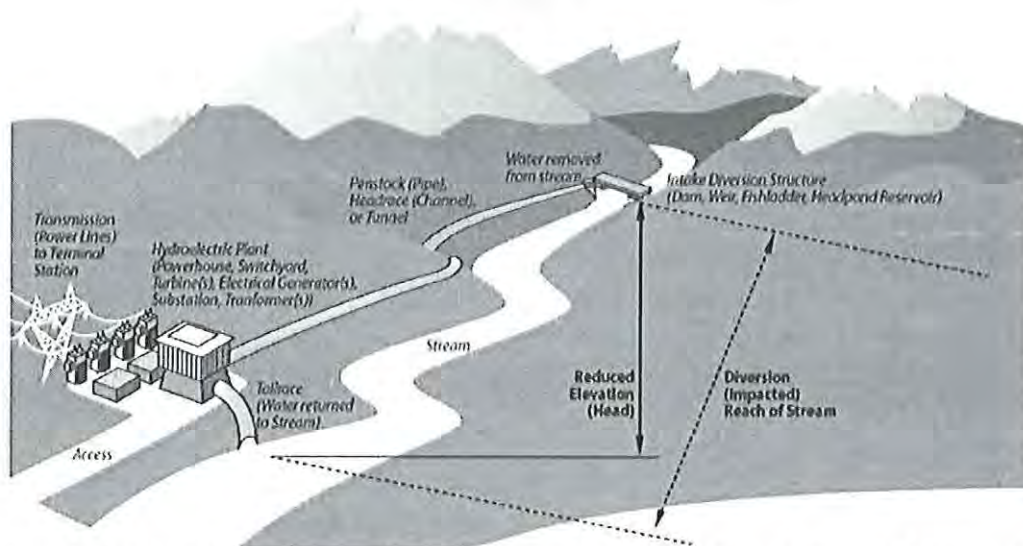


Figure 1: Drawing of a 'typical' run-of-river hydroelectric project (Ministry of Forests, Lands and Natural Resource Operations, 2011)

Potential Impacts

Some of the potential impacts from water power projects include:

Aquatic Environments	Terrestrial Environments
<ul style="list-style-type: none"> • Damage or loss of/to streamside (riparian) vegetation • Dams can inhibit movement of fish and organic materials downstream • Fish impingement (when fish are pinned against the penstock intake) and entrainment (when fish 	<ul style="list-style-type: none"> • Habitat fragmentation due to roads and transmission lines • Impacts to wildlife due to increased noise and human activity • Introduction of invasive species • Loss of recreational opportunities for kayakers,

are drawn into the penstock) • Reduced flows causing decreased water velocity and depth, which can lead to fluctuating water temperatures and fish mortality	fishermen etc. • Erosion of materials into waterways during construction
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These impacts are usually prevented or mitigated through review processes that result in legally binding conditions – such as EA certificate and permit conditions – that projects must adhere to. Instances of non-compliance on run of river hydroelectric projects can lead to unexpected, and sometimes significant, adverse effects to environmental, social, health, heritage and economic values. Recently, two water power projects near Squamish, BC caused fish mortality when fluctuating water levels from inconsistent water diversion rates left fish stranded. A study conducted by the Ministry of Forests, Lands, and Natural Resource Operations (FLNRO) in 2010 noted ramping non-compliance issues on water power projects in the South Coast region were common. The study made a number of recommendations to address non-compliance which include improved coordination across government, the establishment of a monitoring program, and the clarification of agency roles.

Implications

In addition to resulting in adverse effects, instances of non-compliance can reflect negatively on the BC environmental assessment process and authorization review processes. Given the range of impacts that can result from non-compliance, promoting and maintaining compliance is critical. A comprehensive and coordinated multi-agency compliance management strategy for water power projects can effectively ensure compliance by using an appropriate set of compliance management tools, such as measurable and enforceable requirements, professional reliance, government inspections, and enforcement.

To promote addressing issues of non-compliance on EA projects, the BC EAO has created a comprehensive monitoring, compliance and enforcement program. The success of this program relies heavily on interagency coordination across government to determine best practices, better clarify roles and responsibilities, and to avoid the duplication of efforts. The July 5th workshop on Water Power Project Compliance Management provides another venue for cross government involvement and collaboration specifically relating to water power projects.

Coordinated compliance management programs provide assurance to the public that projects are meeting legal requirements and therefore preventing or reducing adverse effects as anticipated.

Water Power Project Compliance Management Workshop

The objective of this session is to build a common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues.

This workshop will initiate work on a strategy to coordinate multi-agency compliance management efforts in ways that fill compliance management gaps while at the same time avoid duplication. The session will begin with an overview and discussion of non-compliance issues, current solutions, gaps in compliance oversight and then lead into a collaborative identification of solutions. The front and back ends of compliance management will be discussed, and both technical and process solutions will be examined.

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July 5th Run of River Compliance Management Workshop – DRAFT ACTION PLAN

Issue	Solution	Agency	Lead	Timeline
Coordination - EAO and permitting - Government and DFO - Working groups	<ul style="list-style-type: none"> Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> LEAN process Compliance management plans (CMPs) 	C&E Branch DFO EAO FLNRO	C&E Branch DFO EAO FLNRO	
Monitoring and Compliance - Annual conference for lessons learnt, knowledge sharing, baseline data etc. (technical focus) - Lack of provincial consistency of monitoring and compliance	<ul style="list-style-type: none"> Work with Clean Energy BC on issues and solutions Clean energy “clean” relationship to “clean” monitoring and compliance Provincial consistency (remove interpretation) <i>E.g. Language in commitments which can fall on regional staff to enforce</i> → Link to operational parameters and procedures (OPP), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs) 	EAO and others	Brian Murphy EAO Heather MacKnight	
“One Process” - Accountability - Roles and responsibilities - Lack of coordination - Qualified persons (QPs) to manage workload	<ul style="list-style-type: none"> Map out processes and define Find redundancies (different functions from prior priorities restructuring) “Legacy work” Compliance communication Staff knowledge base <ol style="list-style-type: none"> The who (Needs) Form and function of staff Training 	C&E Branch DFO EAO FLNRO IE IEM	Brian Murphy Heather MacKnight	Fall 2012 (Draft)
Post Permitting	<ul style="list-style-type: none"> Communication with regions Roles and responsibilities Communications strategy 			
Ramping	<ul style="list-style-type: none"> Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i> Security funds Online database for reports from independent environmental monitors Independent compliance monitors BC Hydro <i>E.g. Auditing, MOU with the COS</i> Leverage industry across sectors versus individual projects 	EAO, FLNRO → MEM Policy	EAO Project Managers, leads, and experts	Independent compliance review = During construction and after 2 years operating
Regional Priorities - Inconsistent use of guidance, policy and procedures	<ul style="list-style-type: none"> Enforceable decision to do things Provincially <i>E.g. Water Act Modernization</i> 			
Reporting - Environmental monitors, independent environmental monitors	<ul style="list-style-type: none"> Online submission Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i> Consolidating, permitting Re: compliance audit process vs. inspection? 	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry of Finance)</i>		

Risk Management - Variation in approaches	• Risk management training			
Tools and Templates - Operational parameters and procedures (OPP), operational environmental management plans (OEMPs)				

**Water Power Project
Compliance Management Workshop
July 5th, 2012
8:30 – 12:00**

Facilitators: Sandra Baan and Lisa La Rose

Attendance: Scott Babakaiff, Kevin Bertram, Sue Bonnyman, Michelle Carr, Justin Carlson, Carley Cocola, Ted Down, Kevin Haberl, Tim Hicks, Heather MacKnight, Paul Marquis, Brian Murphy, Lance Sundquist, Nancy White

8:30am - Welcome and Introductions (Michelle, Sandra, and Lisa)

- Welcomed everyone in attendance
- Noted this workshop was identified as a priority by both the Minister of Environment and EAO's Associate Deputy Minister following recent media highlights of non-compliant run of river projects.
- Action packed morning to generate an action plan
 - Objective is to initiate work on a multi-agency action plan for compliance management of water power projects
- Introductions
- Agenda overview

8:45am - EAO Overview (Tim)

- EAO takes a holistic perspective to compliance management on run of river projects, recognizing that there are various issues that can occur on the projects (in addition to ramping)
- Important to promote compliance
- EAC conditions and subsequent permits provide a variety of enforcement tools
- Recognition that there are shared priorities and it is important to link across agencies/government
 - Work with all regionsExample: currently have C&E branch staff are reviewing draft certificate conditions, compliance management plans and conducting inspections for compliance with EA Certificate conditions
- Recent creation of Compliance Management Plans

Q: Scope of the session? What happens if a project is compliant but still has unexpected adverse effects?
→ Linked into "effectiveness management" which was also addressed in the 2011 report by the Auditor General

8:55am - Water Power Projects and Fish: An Introduction to Compliance Issues (Scott)

- Currently 22 operating water power projects in the South Coast Region
 - Will be 25 operating projects by 2013
- What gets monitored for compliance and how depends on the project phase (E.g. construction, operation etc.)
- Compliance monitoring brings forth a lot of questions/concerns:
 - What gets monitored?
 - How are monitoring requirements set?

- Who is responsible for ensuring that monitoring plans are appropriate?
- Who is doing the monitoring?
- When are monitoring reports submitted to government?
- Who is responsible for ensuring that monitoring reports are submitted on time and per the plan?
- Who is responsible for responding to non-compliances?
- Who is responsible for ongoing actions associated with non-compliance response?

Monitoring Plans Associated with Licensing

- CEMP = construction environmental management plan
- IEM = independent environmental monitor
- OPP = operational parameters and procedures
 - Includes ramping study plan, intake and diversion rates etc.
 - In the South Coast region, most OPPs for projects are not approved or meeting requirements of the SDM
- There is an overall lack of consistency and efficiency between these plans (CEMPs, OPPs etc.)
 - Challenges include: weekly reports from IEMs often don't get tracked or reviewed due to staff capacity, IEM reports are late or incomplete, and often no actions are being taken to follow up on IEM reports

OPPs and the South Coast Region

- Only 4 of the 22 operating projects in the South Coast have satisfactory OPPs
- Fish kills have been noted on 3 of the 22 projects
 - May be happening on more projects, however, there is a lack of data
- Detecting ramping non-compliance can be complex
- Work is being done on new ramping guidelines with the federal government (underway in draft stage)

Morning Introductory Identification of Issues

- Compliance management plans
- How effective are conditions?
 - Need to address ineffective conditions
- Possibility of having 3rd party technical expertise paid for by the proponent (independent compliance reviewer)
- CEMP, OEMP, OPP
 - No template
 - Completed on an ad-hoc basis
 - SDM approval and effort is required
- Workload
- Staffing
- Reporting
 - Review, tracking, capacity, system for monitoring

- Varying levels of compliance with reporting requirements
- Number of projects coming online
- Proponent driven inactivity
- High number of non-compliance
 - Ramping
 - Start up, shut down, inconsistencies, complexity
 - Needed in OPP?
 - Notifications, fish stranding/kills etc.
- Consistency among operating documents
- Incident follow-up

9:15am - Brainstorm of Key Issues (Sandra and Lisa)

Below is a summary of the sticky note session.

<ul style="list-style-type: none"> - Professional accountability (front and back end) - Baseline data requirements - Agency roles and responsibilities - Access management - Flow monitoring 	<ul style="list-style-type: none"> - Coordination and consultation - Tools - What are other jurisdictions doing? (E.g. obligations M. Forests one pager) - Effectiveness of IE process - OEMP etc. accountability 	<ul style="list-style-type: none"> - Enforcement regimes (incentives, penalties etc.) - Tools for reporting management - Resources - Staffing/Capacity - Technical staff - Agency roles and responsibilities - Variation in agency timelines - BC Hydro and EPA requirements? - Work with industry - Communication

10:25am - Action Plan Development

11:15 - Reporting Back on Action Plans

Process Group 1

- Coordination between government, DFO, working groups etc.
- Find redundancies (different functions from prior priorities restructuring)
- Overall communications piece including communication with regions, communication on compliance etc.
- Promote compliance
- Audits
- Database for “pre-screenings” of reports to identify and highlight non-compliance
- Increase consistency in guidance, regional SDMs etc.
- Identify what risk management is through training sessions
- Develop an annual conference for lessons learnt, knowledge sharing, baseline data etc.

Technical Group 2

- Security deposits

- Discussion around whether securities could be withheld due to non-compliance → Legal issue
- Follow up workshop
- Online database for submission and review of IEM forms
- Independent compliance review
- Leverage industry across sectors

****One attendee noted that EAO has the opportunity to help regions move towards more consistency in how things are done (re: compliance and monitoring)**

11:50am - Next Steps (Michelle, Heather, and Tim)

- Another meeting to follow up (Likely September or October)
- Draft and complete the action plan
- An online database for information sharing? → Sharepoint site?
- Continue to maintain consistent language in permits
- Heather is attending an ADM meeting this summer → key issue to raise
- Report back to Minister and EAO ADM

Non-Compliance Issues	Current Solutions	Current Gaps
<div data-bbox="102 184 131 415">Access Management</div> <ul style="list-style-type: none"> - Remoteness of sites and access difficulties after ramping incidents → delays can lead to an increase in fish kills <div data-bbox="102 506 131 653">Agency Roles and</div> <ul style="list-style-type: none"> - Roles <ul style="list-style-type: none"> • Who, what, when - IEM reporting <ul style="list-style-type: none"> • Content and timing - Document compliance <ul style="list-style-type: none"> • Submission, analysis, action <div data-bbox="102 716 131 1020">Baseline Data Requirements</div> <ul style="list-style-type: none"> - Flow monitoring insufficient to detect long term impacts - Lack of statistical power - Lack of ramping guidelines <div data-bbox="102 1125 131 1293">Miscellaneous</div> <ul style="list-style-type: none"> - Human-wildlife conflict prevention, <i>E.g. bears</i> - Professional accountability model vs. procedural model - Need for govt-proponent meeting before construction to review obligations - Need for proponent-contractor meeting before construction to review obligations <div data-bbox="102 1388 131 1524">Non-Compliance</div> <ul style="list-style-type: none"> - Various types of EA certificate non-compliance <i>E.g. social, heritage, biophysical</i> - Clearing outside bird habitat protection windows 	<div data-bbox="558 205 599 394">Coordination and Consultation</div> <ul style="list-style-type: none"> - How do we collaborate with DFO to maximize/optimize efforts? - Coordination between EAO and other agencies of EA certified projects - Incorporation of C&E branch in EAO monitoring <div data-bbox="558 506 599 642">Inspections</div> <ul style="list-style-type: none"> - Inspections with C&E branch for a broad range of issues - Inspections verify and promote compliance <div data-bbox="558 716 599 1020">Effectiveness of IE Process</div> <ul style="list-style-type: none"> - Effectiveness of weekly reports - Are the IEM reports the right tools if there is a lack of capacity to follow up? - IEM recommendations not being adhered to onsite - Disputes between IEM and (EM) proponent's environmental monitor <div data-bbox="558 1178 599 1251">Tools</div> <ul style="list-style-type: none"> - CMPs clearly outlining priorities on inspections for field staff - CMPs = what, priority, when - How do other jurisdictions do it? - IE - IEM - Commitments in management plans 	<div data-bbox="1026 184 1066 436">Agency Communication and Coordination</div> <ul style="list-style-type: none"> - Lack of coordinated approach to regulatory framework - Seamless compliance management framework - Lack of communication between government agencies regarding compliance issues - Provincial consistency in how compliance conditions are enshrined (EA and non-EA projects alike) <div data-bbox="1026 506 1066 642">Certificate Conditions</div> <ul style="list-style-type: none"> - Level of detail in EAC vs. permitting → how to ensure most effective approach for compliance? - Industry certification → BC Hydro? - Some "legacy" EA Certificate conditions are not readily measurable and are therefore less enforceable <div data-bbox="1026 800 1066 936">Enforcement</div> <ul style="list-style-type: none"> - Time lag between ramping event and response - Solutions should be focused on promoting compliance, <i>E.g. incentives or penalties</i> - Limits of legislation → Whose job to enforce? - Need for standard process for legally enforcing OPPR, CEMP etc. - Proponents fund full audit on compliance <div data-bbox="1026 1083 1066 1335">Monitoring / Technical</div> <ul style="list-style-type: none"> - Establish environmental objectives for key values and monitor compliance against these objectives - Lack of understanding of significance of fish kills - Inability to prioritize actions - Precisely define the intent of the monitoring conditions - Reliance on government to interpret technical aspects, <i>E.g. ramping, flow</i> <div data-bbox="1026 1388 1066 1524">Resources</div> <ul style="list-style-type: none"> - To manage/review reports - FLNRO getting onto CVIS so all agencies can check for inspections - Apply the EA CMPs concept to sub-threshold projects <div data-bbox="1026 1577 1066 1692">Staffing Capacity</div> <ul style="list-style-type: none"> - Staff solely dedicated to maintaining a database for tracking compliance - Management plans required by EA certificates may not be reviewed and/or approved by responsible agencies <div data-bbox="1026 1766 1066 1902">Working w/ Industry</div> <ul style="list-style-type: none"> - Standards and training needed - Performance audits - How are we collaborating to jointly solve the problem? - Disconnect between proponent and contractor

Summary of Issues and Potential Solutions

Issue	Solution		Estimated Timeline	Agency	Lead
Insufficient Coordination	<ul style="list-style-type: none"> Consistency between EAC conditions and conditions in subsequent permits 	<ul style="list-style-type: none"> Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> Provincially statutory initiatives <i>E.g. Water Act Modernization</i> 	December 2012	C&E Branch, DFO, EAO, FLNRO, MEM	EAO/FLNRO
	<ul style="list-style-type: none"> Inconsistent use of guidance, policy and procedures 	<ul style="list-style-type: none"> Consistent communication and regional use of policy, guidance and procedures 	Fiscal 2013	EAO & FLNRO	EAO/FLNRO (template development)
Oversight of Certified Projects (Monitoring, Compliance and Enforcement)	<ul style="list-style-type: none"> Lack of provincial consistency for monitoring and compliance activities 	<ul style="list-style-type: none"> Work with industry (e.g. Clean Energy BC) on issues and solutions Provincial consistency for EA conditions that are subsequently addressed in operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs) Annual meeting for lessons learned, knowledge sharing, baseline data etc. (technical focus) 	December 2012	ALL (C&E Branch, DFO, EAO, FLNRO, MEM, IE, IEM)	Brian Murphy/ Heather MacKnight (FLNRO templates)
	<ul style="list-style-type: none"> Ensuring conditions are measurable and enforceable 	<ul style="list-style-type: none"> Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i> Independent compliance reviewers (Qualified professionals) 	December 2012	ENV	EAO & MOE (LEAN)
				ALL	FLNRO
			Short term (Independent compliance review = During construction and after 2		

		years operating)		
	<ul style="list-style-type: none"> Interagency C&E roles and responsibilities not clarified for all EA certificate conditions 	<ul style="list-style-type: none"> Compliance management plans (CMPs) → LEAN process 	December 2012	
	<ul style="list-style-type: none"> Reports from Independent Environmental monitors (IEMs) not being followed up on consistently 	<ul style="list-style-type: none"> Identify process efficiencies for independent environmental monitor reporting and government follow-up (e.g., online database for independent environmental monitors to submit reports) 	December 2012	EAO, FLNRO (MOE, CVIS?) EAO, MOE, & FLNRO (link into CVIS database?)
	<ul style="list-style-type: none"> Timely Incident follow-up 	<ul style="list-style-type: none"> Communication with regions, communications strategy 	December 2012	C&E Branch, DFO, EAO, FLNRO, MEM
	<ul style="list-style-type: none"> Limited staff capacity 	<ul style="list-style-type: none"> Roles and responsibilities 	Fiscal 2013	FLNRO
	<ul style="list-style-type: none"> Compliance verification 	<ul style="list-style-type: none"> BC Hydro/COS MOU regarding auditing (Follow up with COS) Inspect Identify and establish inspection resources for different aspects of inspections (e.g. sediment and erosion control vs. ramping) 	Established	C&E Branch COS All All
	<ul style="list-style-type: none"> Mechanisms to promote compliance 	<ul style="list-style-type: none"> Use of security deposits 	March 2013	FLNRO Sandra Baan
Achieving "One Process"	<ul style="list-style-type: none"> Determining roles and responsibilities to avoid duplicating processes 	<ul style="list-style-type: none"> Map out processes and define 	December 2012 (underway)	ALL FLNRO

		<ul style="list-style-type: none">• Staff knowledge base, training• Qualified persons (QPs) to manage workload	Fiscal 2013 December 2012		To be determined QP: Brian Murphy to contact Garth Atkins → NR sector
	<ul style="list-style-type: none">• Lack of coordination	<ul style="list-style-type: none">• Eliminate redundancies (different functions from prior restructuring)	December 2012	FLNRO	Brian Murphy & Heather MacKnight
Setting Clear and Enforceable Requirements	<ul style="list-style-type: none">• Minimum instream river flows and ramping rates	<ul style="list-style-type: none">• Measurable and enforceable certificate conditions that are coordinated with permit requirements• BC Hydro/COS MOU regarding auditing (Follow up with COS)	December 2012	EAO, FLNRO, C&E Branch	EAO
Reporting	<ul style="list-style-type: none">• Internal compliance reporting• Limited capacity to deal with reports	<ul style="list-style-type: none">• Online submission of independent environmental monitors and environmental monitor reports → Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i>• Consolidating, permitting Re: compliance audit process vs. inspection?	Fiscal 2013	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry of Finance)</i>	
	<ul style="list-style-type: none">• Need to increase transparency/accountability by reporting out to the public	<ul style="list-style-type: none">• Develop an overall plan for reporting → Determine the timing and level of detail	Fiscal 2013	EAO	EAO to develop policy guidance for EA projects
Risk Management	<ul style="list-style-type: none">• Large number of projects entering the EA and permitting process	<ul style="list-style-type: none">• Risk management training• Risk ranking framework	Fiscal 2013	ALL	EAO for EA projects(CMPs risk rank projects)

	<ul style="list-style-type: none"> • Variation in approaches 	<ul style="list-style-type: none"> • Use of templates to increase consistency 	Fiscal 2013		
Inconsistent Tools and Templates	<ul style="list-style-type: none"> • Varying operational parameters and procedures (OPP), operational environmental management plans (OEMPs) 	<ul style="list-style-type: none"> • OPPR, CEMP, OEMP templates • Consistency in documents 	Template work to be completed by March 31, 2013	FLNRO	Heather MacKnight

**Water Power Project
Compliance Management Workshop
July 5th, 2012
8:30am – 12:00pm**

Facilitators: Sandra Baan and Lisa La Rose

Attendance: Scott Babakaiff, Kevin Bertram, Sue Bonnyman, Michelle Carr, Justin Carlson, Carley Coccola, Ted Down, Kevin Haberl, Tim Hicks, Heather MacKnight, Paul Marquis, Brian Murphy, Lance Sundquist, Nancy White

Overview:

The objective of the July 5th workshop was to develop a multi-agency action plan for compliance management of water power projects. The morning session informed participants of the issues with perspectives from EAO, FLNRO, and MEM, and included a presentation from Fish Protection Hydrologist Scott Babakaiff (attached). The group participated in a “sticky note” exercise to identify current non-compliance issues, solutions, and gaps. The results of this exercise are summarized in Figure 1 below. The “gaps” from this exercise helped to build a draft action plan in the afternoon session.

Table 1: Non-compliance issues, solutions, and gaps identified in the “sticky note” exercise.

Non-Compliance Issues	Current Solutions	Current Gaps
<ul style="list-style-type: none">- Professional accountability (front and back end)- Baseline data requirements- Agency roles and responsibilities- Access management- Flow monitoring	<ul style="list-style-type: none">- Coordination and consultation- Tools- What are other jurisdictions doing? (E.g. obligations M. Forests one pager)- Effectiveness of independent environmental monitor (IEM) process- OEMP etc. accountability- Inspections	<ul style="list-style-type: none">- Enforcement regimes (incentives, penalties etc.)- Tools for reporting management- Resources- Staffing/Capacity- Technical staff- Agency roles and responsibilities- Variation in agency timelines- BC Hydro and EPA requirements?- Work with industry- Communication- Monitoring- Certificate conditions

Next Steps:

- Approval of draft action plan
- Reporting back on the workshop
- FLNRO’s ADM committee
- Follow-up workshop in the fall, 2012

Issue	Solution		Agency	Lead	Timeline
Coordination	<ul style="list-style-type: none"> EAC conditions reflected in subsequent permits 	<ul style="list-style-type: none"> Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> Enforceable decision to do things Provincially <i>E.g. Water Act Modernization</i> 	C&E Branch, DFO, EAO, FLNRO, MEM	EAO	Ongoing (CMPs)
	<ul style="list-style-type: none"> Inconsistent use of guidance, policy and procedures 	<ul style="list-style-type: none"> Consistent regional use of policy, guidance and procedures 	EAO & FLNRO	EAO/ FLNRO (template development)	
Monitoring and Compliance	<ul style="list-style-type: none"> Lack of provincial consistency for monitoring and compliance activities 	<ul style="list-style-type: none"> Work with Clean Energy BC on issues and solutions Provincial consistency for EA conditions that are subsequently addressed in operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs) Annual meeting for lessons learned, knowledge sharing, baseline data etc. (technical focus) 	ALL (C&E Branch, DFO, EAO, FLNRO, MEM, IE, IEM)	Brian Murphy/ Heather MacKnight (FLNRO templates)	Templates: March 31, 2013
	<ul style="list-style-type: none"> Ensuring conditions are measurable and enforceable 	<ul style="list-style-type: none"> Compliance management plans (CMPs) → LEAN process Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i> Independent compliance reviewers 	ENV ALL	EAO & MOE (LEAN) ??	LEAN deadline? Independent compliance review = During construction and after 2 years operating
	<ul style="list-style-type: none"> Reports from Independent Environmental monitors (IEMs) not being followed up on in post permitting stage 	<ul style="list-style-type: none"> Online database for reports from independent environmental monitors 	EAO, FLNRO (MOE → CVIS?)	EAO, MOE, & FLNRO (link into CVIS database?)	Following the development of a policy on posting compliance materials
	<ul style="list-style-type: none"> Timely Incident follow-up Limited staff capacity 	<ul style="list-style-type: none"> Communication with regions → Communications strategy Use of security deposits Roles and responsibilities 	C&E Branch, DFO, EAO, FLNRO, MEM	FLNRO	Ongoing
	<ul style="list-style-type: none"> Determining roles and responsibilities to avoid duplicating processes 	<ul style="list-style-type: none"> Map out processes and define Staff knowledge base → Training Qualified persons (QPs) to manage workload 	ALL	Brian Murphy & Heather MacKnightQP: Brian Murphy to	Fall 2012 (Draft)

				contact Garth Atkins → NR sector	
	<ul style="list-style-type: none"> Lack of coordination 	<ul style="list-style-type: none"> Eliminate redundancies (different functions from prior restructuring) 	FLNRO	Brian Murphy & Heather MacKnight	
Setting of Requirements	<ul style="list-style-type: none"> Instream river flows (ramping rates) ??? 	<ul style="list-style-type: none"> Measurable and enforceable certificate conditions 	EAO, FLNRO, C&E Branch	EAO project managers, leads, experts	Ongoing (CMP development)
	<ul style="list-style-type: none"> Determining what is required for EA vs. non-EA projects 	<ul style="list-style-type: none"> BC Hydro → FOLLOW UP WITH LANCE <i>E.g. Auditing, MOU with the COS</i> Align with EA phases 	C&E Branch	Lance?	
Reporting	<ul style="list-style-type: none"> Internal compliance reporting Limited capacity to deal with reports 	<ul style="list-style-type: none"> Online submission of independent environmental monitors and environmental monitor reports → Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i> Consolidating, permitting Re: compliance audit process vs. inspection? 	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry of Finance)</i>		
	<ul style="list-style-type: none"> Need to increase transparency/accountability by reporting out to the public 	<ul style="list-style-type: none"> Develop an overall plan for reporting → Determine the timing and level of detail 	EAO	EAO to develop policy guidance for EA projects	Summer/Fall 2012
Risk Management	<ul style="list-style-type: none"> Large number of projects entering the EA and permitting process 	<ul style="list-style-type: none"> Risk management training Risk ranking framework 	ALL	EAO for EA projects (CMPs risk rank projects)	Ongoing
	<ul style="list-style-type: none"> Variation in approaches 	<ul style="list-style-type: none"> Use of templates to increase consistency 			
Tools and Templates	<ul style="list-style-type: none"> Varying operational parameters and procedures (OPP), operational environmental management plans (OEMPs) 	<ul style="list-style-type: none"> OPPR, CEMP, OEMP templates Consistency in documents 	FLNRO	Heather MacKnight	March 31 st , 2013

Workshop on Compliance Management for Water Power Projects
July 5, 2012

DRAFT Action Plan – September 2012

Issue	Action	Estimated Timeline (refine timelines with workshop participants)	Lead
Compliance verification	<ul style="list-style-type: none"> Focus EA Certificate inspections on run of river projects 	Underway	EAO, FLNRO
	<ul style="list-style-type: none"> Develop strategy for proactive verification of compliance with ramping/instream flow requirements 	March 2013	FLNRO
	<ul style="list-style-type: none"> Develop strategy for increasing government capacity to review and respond to independent monitoring reports OR alternate monitoring models that are less staff intensive, such as IT solutions 	March 2013	FLNRO
Compliance planning and promotion	<ul style="list-style-type: none"> EAC conditions for new projects: require adaptive management programs for developing instream flow requirements and ramping rates for run of river projects 	December 2012	EAO
	<ul style="list-style-type: none"> Use of security deposits 	March 2013	FLNRO, building on research already done by Sandra B
Inconsistent Tools and Templates	<ul style="list-style-type: none"> Develop templates for operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), and construction environmental management 	March 2013	FLNRO

	plans (CEMPs)		
	<ul style="list-style-type: none"> • Work with industry (e.g. Clean Energy BC) to identify issues and solutions 	March 2013	All FLNRO, and EAO (through the Clean Energy Client Advisory Committee)
Coordination	<ul style="list-style-type: none"> • Circulate draft action plan to workshop participants 	October 2012	EAO
	<ul style="list-style-type: none"> • Organize a meeting to discuss the action plan and determine further steps to track deliverables of respective agencies. 	November 2012	EAO to organize initial meeting; all to participate
	<ul style="list-style-type: none"> • Collaborate with other government agencies on compliance management plans for EA projects (including through MOE/EAO Corporate LEAN project) 	Initiated, deepen collaboration by December 2012	EAO
	<ul style="list-style-type: none"> • Report on actions, and lessons learned 	prior to end of March, 2013	EAO and FLNRO

Workshop on Compliance Management for Water Power Projects
July 5, 2012

DRAFT Action Plan – September 2012

Issue	Action	Estimated Timeline (refine timelines with workshop participants)	Lead	Status of EAO action items, November 2013
Compliance verification	<ul style="list-style-type: none"> Focus EA Certificate inspections on run of river projects 	Underway	EAO, FLNRO	Complete. EAO has conducted compliance inspections of all EA Act certified run-of-river projects that are either under construction or operational.
	<ul style="list-style-type: none"> Develop strategy for proactive verification of compliance with ramping/instream flow requirements 	Medium term	FLNRO?	
	<ul style="list-style-type: none"> Develop strategy for increasing government capacity to review and respond to independent monitoring reports 	Medium term	All	EAO compliance staff review IEM reports as a component of conducting compliance inspections on run-of-river projects.
Compliance planning and promotion	<ul style="list-style-type: none"> EAC conditions for new projects: require adaptive management programs for developing instream flow requirements and ramping rates for run of river projects 	Short term	EAO, FLNRO	Not complete. Reviewed EAC for Upper Lillooet, (certified Jan 2013, only ROR certified since action plan) IFR and flow ramping conditions do not have an adaptive management component.
Coordination	<ul style="list-style-type: none"> Circulate draft action plan to 	October 2012	EAO	Complete. Draft action plan circulated October 30, 2012.

	workshop participants			
	<ul style="list-style-type: none"> Strike a committee to oversee this project 	November 2012	EAO	Not completed.
	<ul style="list-style-type: none"> Collaborate with other government agencies on compliance management plans (including through MOE/EAO Corporate LEAN project) 	Initiated, deepen collaboration by December 2012	EAO	Complete and ongoing, through project-specific inter agency compliance coordination and IEM meetings and development of compliance management plans.
	<ul style="list-style-type: none"> Report on actions, and lessons learned 	Annual		
Inconsistent Tools and Templates	<ul style="list-style-type: none"> Develop templates for operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), and construction environmental management plans (CEMPs) 	Medium term	FLNRO	
Risk Management	<ul style="list-style-type: none"> Develop a staff training plan on assessing and managing risks 	Long term		
Staff Capacity	<ul style="list-style-type: none"> Generate a request for proposals (RFP) to compile a list of qualified professionals (QPs) to help manage workload 	Short term		

Summary of Issues and Potential Solutions

Issue	Solution		Estimated Timeline	Agency	Lead
Insufficient Coordination	<ul style="list-style-type: none"> Consistency between EAC conditions and conditions in subsequent permits 	<ul style="list-style-type: none"> Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> Provincially statutory initiatives <i>E.g. Water Act Modernization</i> 	Short term Long term	C&E Branch, DFO, EAO, FLNRO, MEM	EAO/FLNRO
	<ul style="list-style-type: none"> Inconsistent use of guidance, policy and procedures 	<ul style="list-style-type: none"> Consistent communication and regional use of policy, guidance and procedures 	Long term	EAO & FLNRO	EAO/FLNRO (template development)
Oversight of Certified Projects (Monitoring, Compliance and Enforcement)	<ul style="list-style-type: none"> Lack of provincial consistency for monitoring and compliance activities 	<ul style="list-style-type: none"> Work with industry (e.g. Clean Energy BC) on issues and solutions Provincial consistency for EA conditions that are subsequently addressed in operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs) Annual meeting for lessons learned, knowledge sharing, baseline data etc. (technical focus) 	Short term	ALL (C&E Branch, DFO, EAO, FLNRO, MEM, IE, IEM)	Brian Murphy/ Heather MacKnight (FLNRO templates)
			Short term (Template work to be completed by March 31, 2013)		
			Short term	ALL	ALL
	<ul style="list-style-type: none"> Ensuring conditions are measurable and enforceable 	<ul style="list-style-type: none"> Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i> Independent compliance reviewers 	Short term	ENV	EAO & MOE (LEAN)
			Long term	ALL	FLNRO
			Short term		

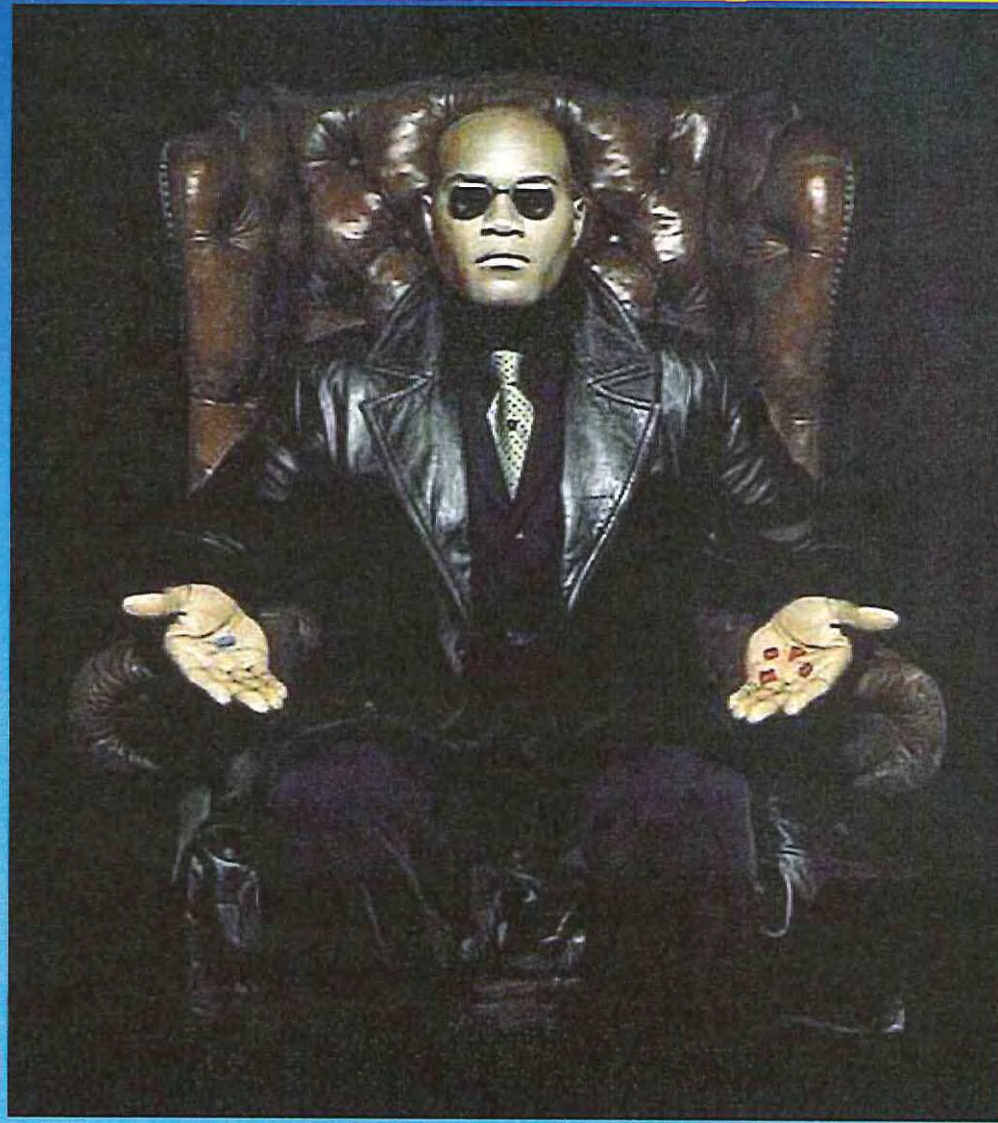
		(Independent compliance review = During construction and after 2 years operating)		
• Interagency C&E roles and responsibilities not clarified for all EA certificate conditions	• Compliance management plans (CMPs) → LEAN process	Short term		
• Reports from Independent Environmental monitors (IEMs) not being followed up on consistently	• Identify process efficiencies for independent environmental monitor reporting and government follow-up (e.g., online database for independent environmental monitors to submit reports)	Short term	EAO, FLNRO (MOE, CVIS?)	EAO, MOE, & FLNRO (link into CVIS database?)
• Timely Incident follow-up	• Communication with regions, communications strategy	Short term	C&E Branch, DFO, EAO, FLNRO, MEM	FLNRO
• Limited staff capacity	• Roles and responsibilities	Long term		
• Compliance verification	• BC Hydro/COS MOU regarding auditing (Follow up with COS)	established	C&E Branch	COS
	• Inspect		All	All
	• Identify and establish inspection resources for different aspects of inspections (e.g. sediment and erosion control vs. ramping)		All	All

	<ul style="list-style-type: none"> • Mechanisms to promote compliance 	<ul style="list-style-type: none"> • Use of security deposits 			
Achieving "One Process"	<ul style="list-style-type: none"> • Determining roles and responsibilities to avoid duplicating processes 	<ul style="list-style-type: none"> • Map out processes and define 	Short term (underway)	ALL	Brian Murphy & Heather MacKnight
		<ul style="list-style-type: none"> • Staff knowledge base, training 	Long term		To be determined
		<ul style="list-style-type: none"> • Qualified persons (QPs) to manage workload 	Short term		QP: Brian Murphy to contact Garth Atkins → NR sector
	<ul style="list-style-type: none"> • Lack of coordination 	<ul style="list-style-type: none"> • Eliminate redundancies (different functions from prior restructuring) 	Short term	FLNRO	Brian Murphy & Heather MacKnight
Setting Clear and Enforceable Requirements	<ul style="list-style-type: none"> • Minimum instream river flows and ramping rates 	<ul style="list-style-type: none"> • Measurable and enforceable certificate conditions that are coordinated with permit requirements 	Short term	EAO, FLNRO, C&E Branch	EAO project managers, leads, experts
	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • BC Hydro/COS MOU regarding auditing (Follow up with COS) 	???	C&E Branch	Lance?
	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 			
Reporting	<ul style="list-style-type: none"> • Internal compliance reporting • Limited capacity to deal with reports 	<ul style="list-style-type: none"> • Online submission of independent environmental monitors and environmental monitor reports → Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i> • Consolidating, permitting Re: compliance audit process vs. 	Long term	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry</i>	

	inspection?		of Finance)		
	<ul style="list-style-type: none">• Need to increase transparency/accountability by reporting out to the public	<ul style="list-style-type: none">• Develop an overall plan for reporting → Determine the timing and level of detail	Long term	EAO	EAO to develop policy guidance for EA projects
Risk Management	<ul style="list-style-type: none">• Large number of projects entering the EA and permitting process	<ul style="list-style-type: none">• Risk management training• Risk ranking framework	Long term	ALL	EAO for EA projects(CMPs risk rank projects)
	<ul style="list-style-type: none">• Variation in approaches	<ul style="list-style-type: none">• Use of templates to increase consistency	Long term		
Inconsistent Tools and Templates	<ul style="list-style-type: none">• Varying operational parameters and procedures (OPP), operational environmental management plans (OEMPs)	<ul style="list-style-type: none">• OPPR, CEMP, OEMP templates• Consistency in documents	Short term (Template work to be completed by March 31, 2013)	FLNRO	Heather MacKnight

Water Power Projects & Fish

An introduction to compliance issues



Scott Babakaiff, Fish Protection Hydrologist

South Coast facilities in construction/commissioning phases...



**Number of water power projects in South Coast Region, by Phase:
22 presently operational, 2 in commissioning, 1 in construction (so: 25 operational by 2013).**



What gets monitored for compliance (and how) depends on project Phase (Construction vs. Operation)

Compliance monitoring must be carefully considered to achieve intended results

Who is responsible for responding to any non-compliances?

Who is responsible for ongoing actions associated with non-compliance response?

What gets monitored?

How are monitoring commitments enshrined?

Who is responsible for ensuring that monitoring plans are appropriate?

Who is doing the monitoring?

When are monitoring reports submitted to government?

Who is responsible for ensuring that monitoring reports are submitted on time & per the Plan?

Monitoring Plans associated with Water Licensing

Construction Environmental Management Plan (CEMP)

- IE & IEM Work Plans

Operational Environmental Management Plan (OEMP)

- Statistical Power Analysis of Baseline data

Operational Parameters & Procedures (OPP)

- Ramping Study Plan

Each of these Plans is negotiated with Govt. on ad-hoc basis: inefficient & inconsistent



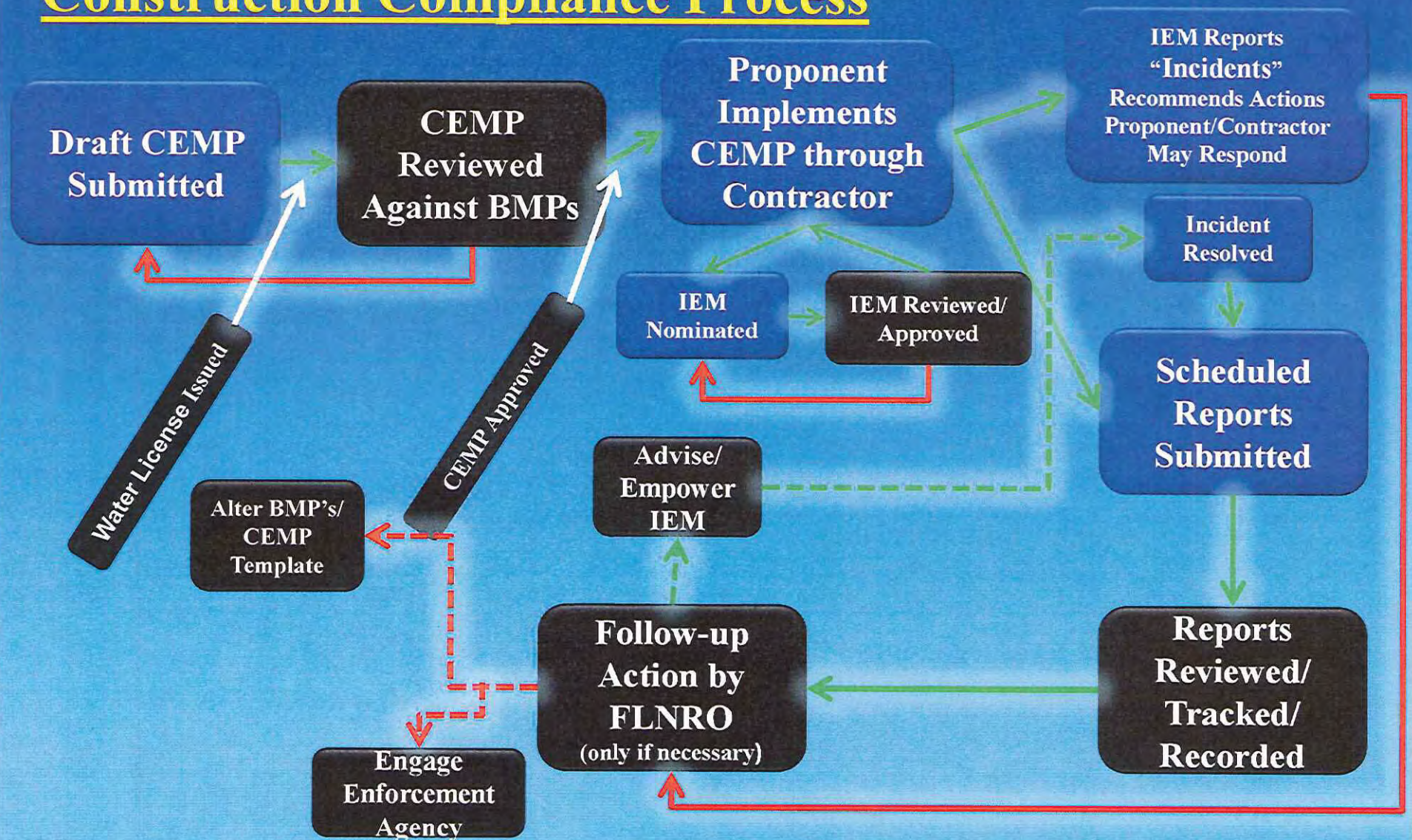
MUJLNIK CREW
THE MATRIX: REVOLUTIONS
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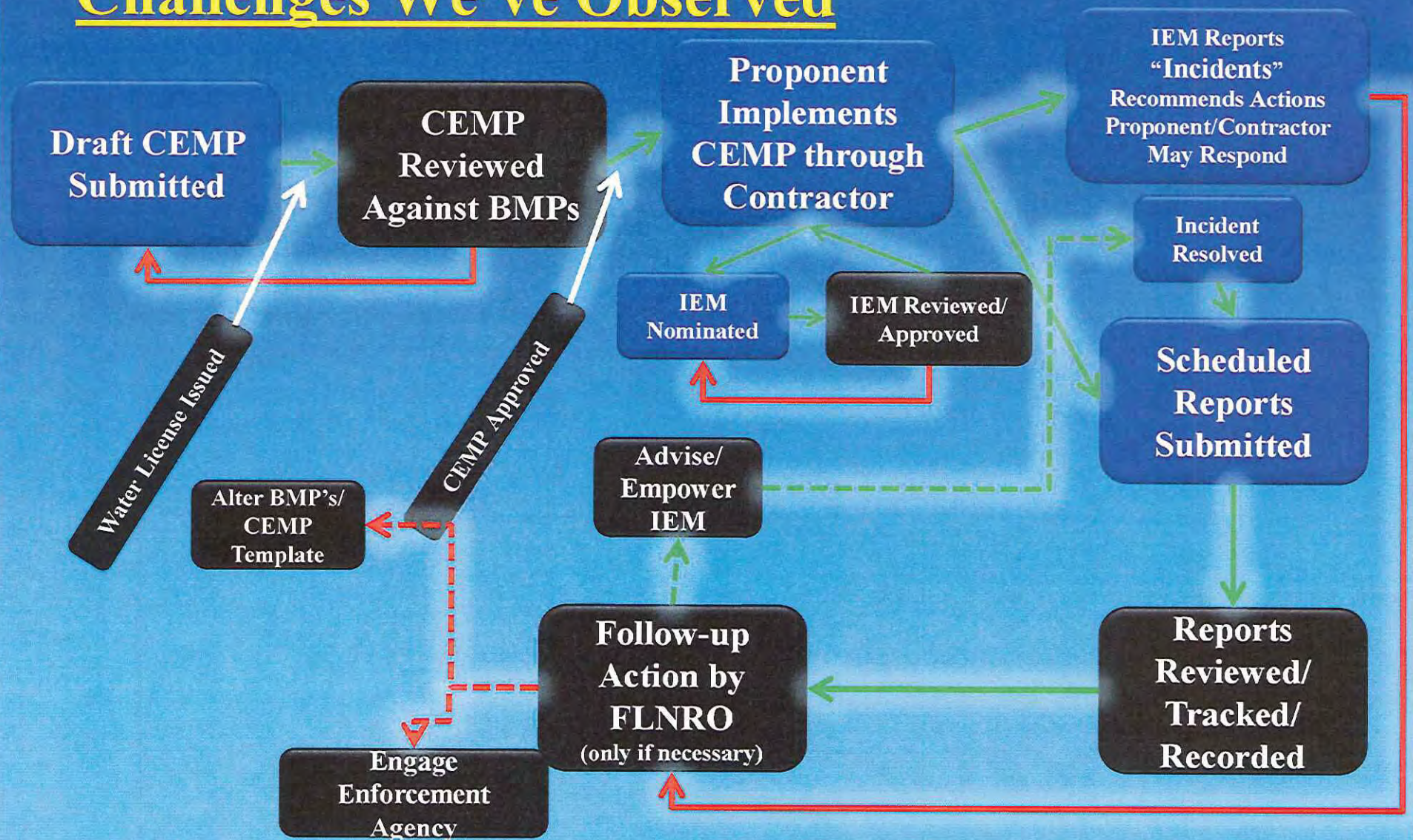


Ultimately, Plans being implemented by licensees (especially OPPs) may not have actually been approved by the SDM.

Construction Compliance Process



Challenges We've Observed



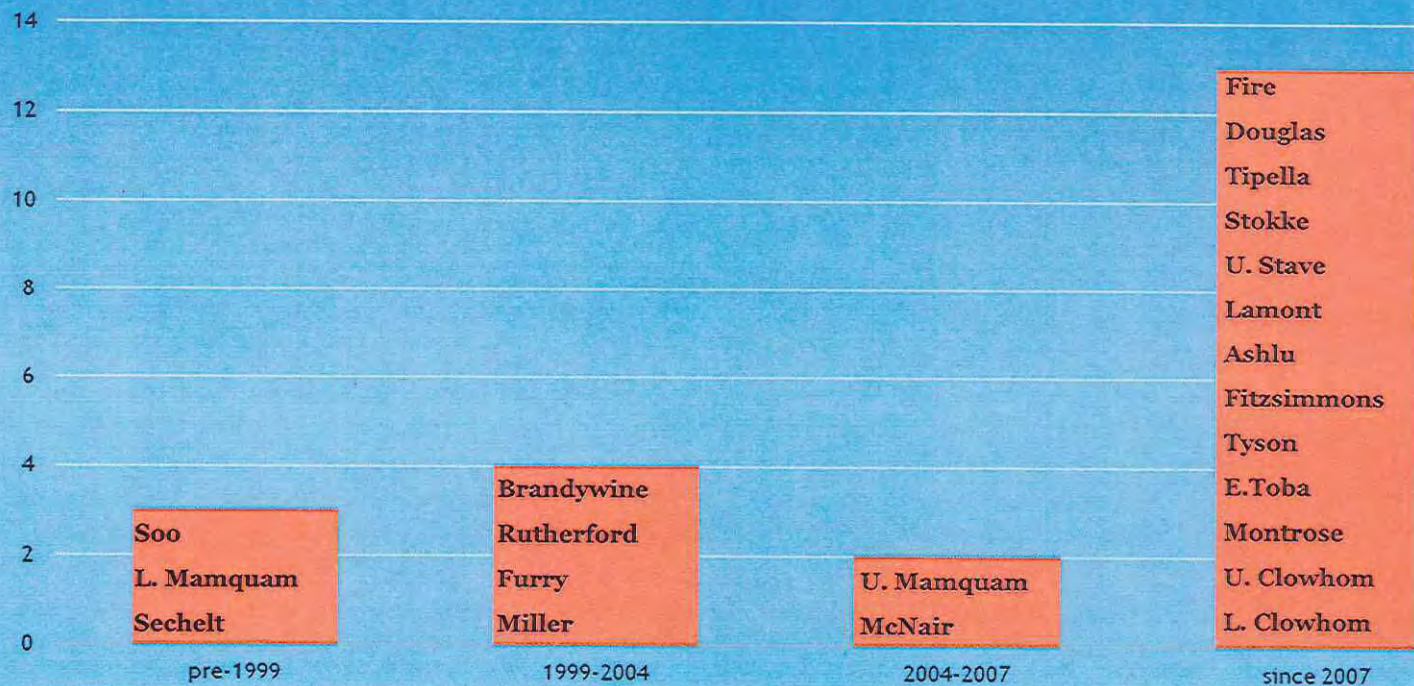
1. Weekly Reports from IEM don't get reviewed or tracked by agency staff
2. IEM reports are late or incomplete
3. Actions are not being taken (by IEM or by agency staff), which reduces enforcement options & provides for a due diligence defence (administrative fairness, officially induced error, etc.)

Compliance during operations is defined primarily within the OPP..

So what is the status of OPPs in South Coast Region?

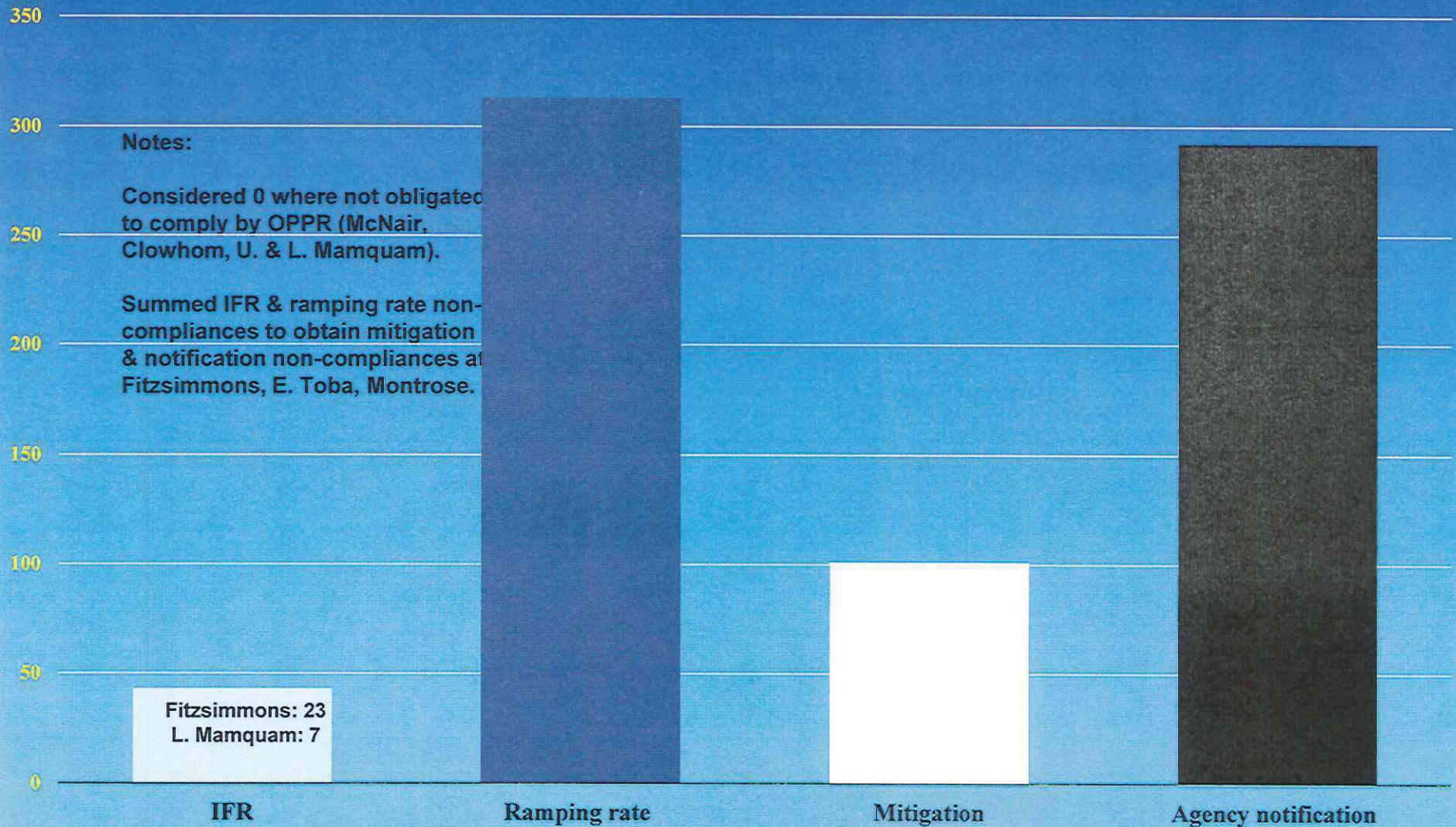
OPPR Status	Pre-1999	1999-2004	2004-2007	Since 2007
OPPR submitted by licensee <u>prior</u> to initiation of operations	0/3	2/4	1/2	13/13
OPPR requested & received by SDM <u>after</u> initiation of operations	1/3	3/4	2/2	13/13
So, the South Coast SDM has OPPRs on file for most (19) of the independent hydro-electricity facilities. But...				
SDM has received the OPPR, but has <u>not yet reviewed & approved its use</u> : 5/19				
SDM has provided review comments to licensee, with requested edits & updates to the OPPR...but <u>no response from licensee</u> : 10/19				
So, the number of independent hydro-electricity facilities with OPPRs on file that have been deemed satisfactory by the SDM: 4				

Number of Facilities on the South Coast
by Power Initiation Period



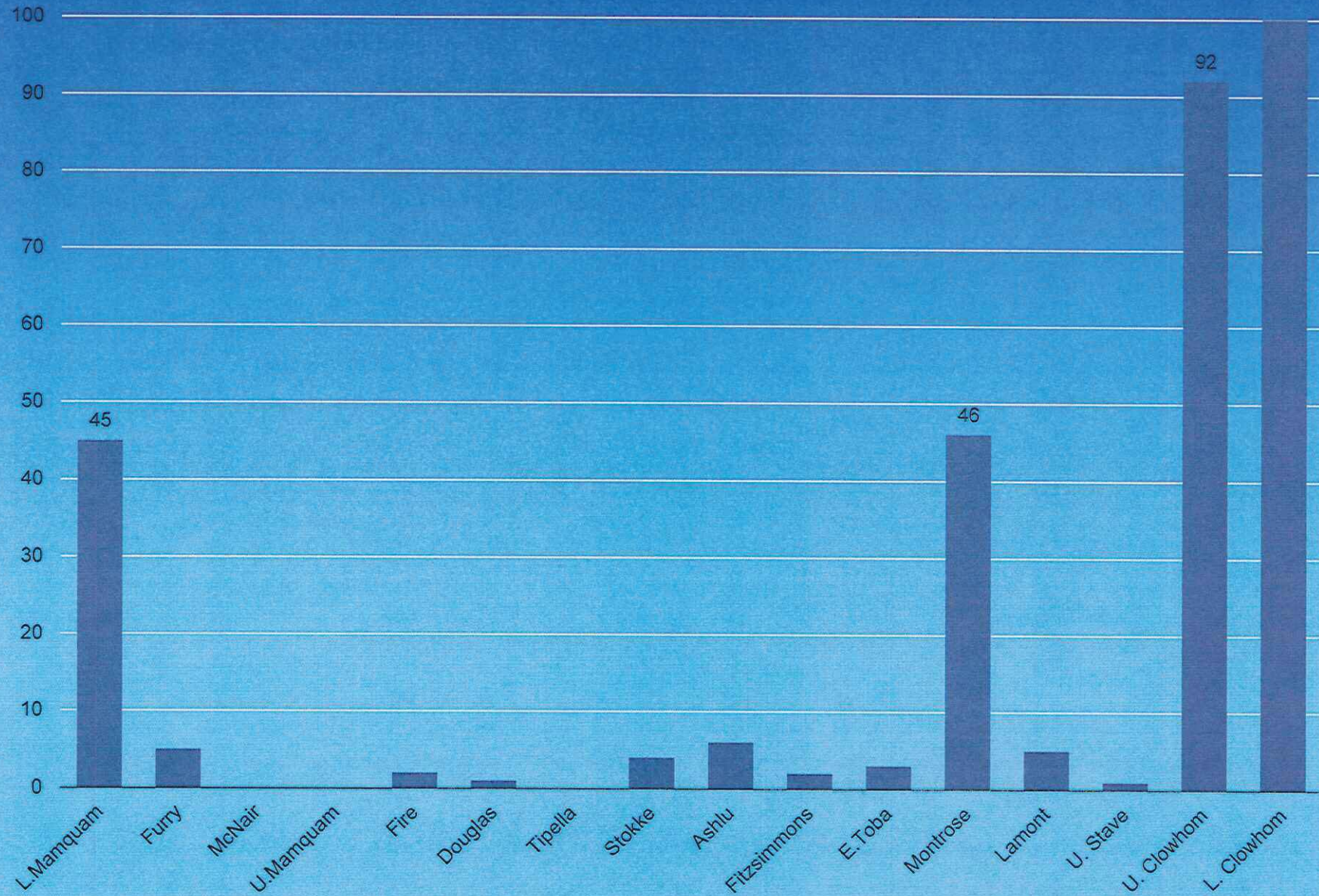
2010 OPP Compliance Assessment (Menezes, 2012)*

Number of non-compliances at 16 facilities on the South Coast in 2010



* Supporting data for non-compliance statistics identified on the next four slides are included in: *Menezes 2012 Operational Non-Compliance Report and associated Excel summary.*

2010 OPP Ramping non-compliances (Menezes, 2012)



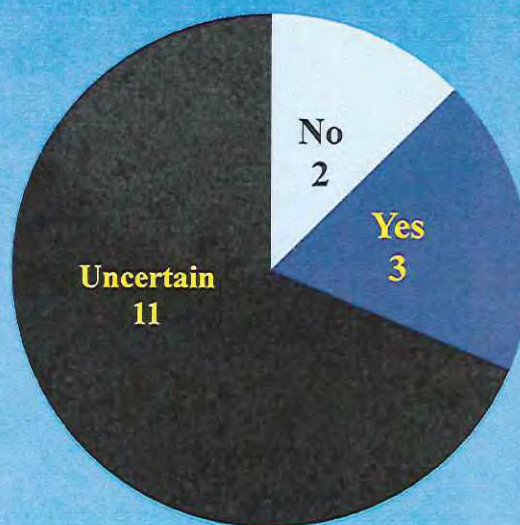
2010 OPP Compliance Assessment (Menezes, 2012)

Ramping incidents on the South Coast in 2010 where fish were stranded or killed

Facility	Period of monitoring	# of Non-compliance incidents	# of incidents impacting fish	# of fish stranded	# of fish killed
L. Mamquam	Sep - Dec	13	3	1	1
Ashlu	Jan – Dec	4	3	166	87
U. Stave	Jan – Dec	2	1	52	6

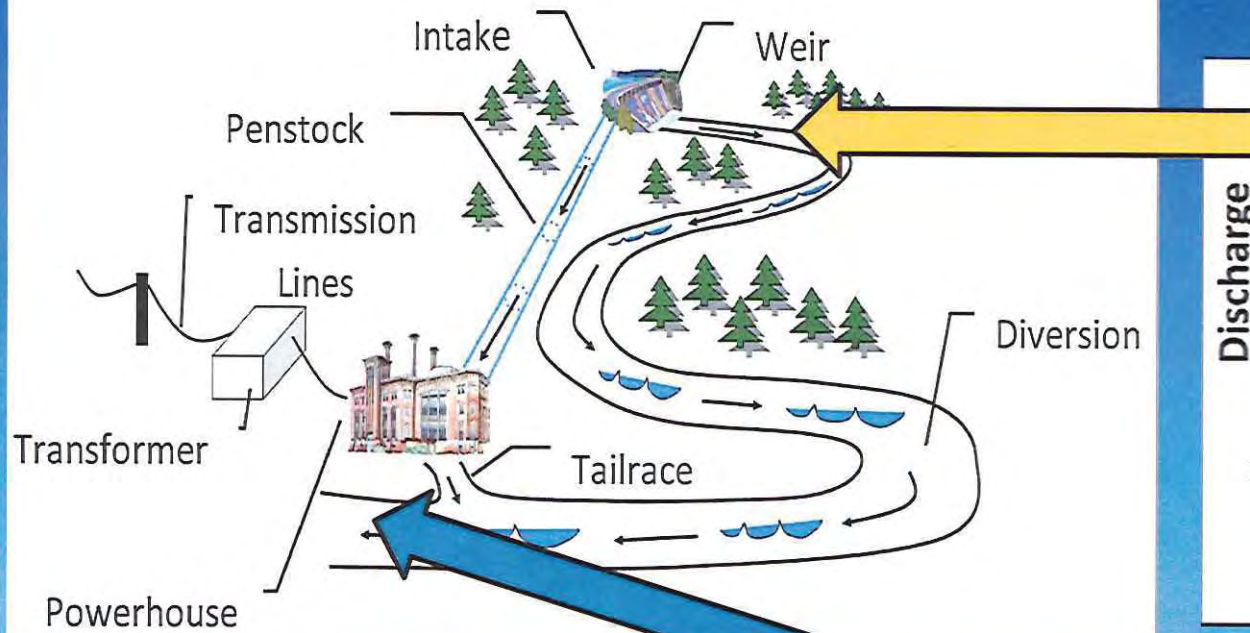
Notes: Lower Mamquam had number of stranding incidents; not known how many fish were impacted.
Ashlu was in commissioning in 2010, so not obligated to report incidents.

Number of facilities on the South Coast in 2010 where fish were stranded or killed



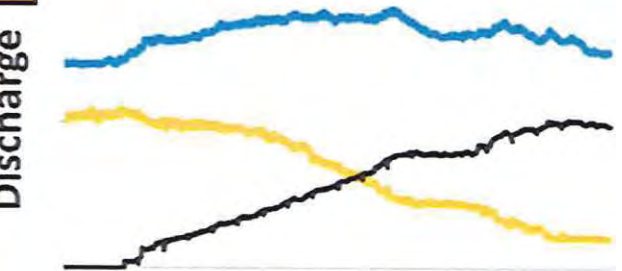


Ramping 101 (cont'd)



Start-Up

Discharge



14:00 18:00 22:00 2:00 6:00 10:00

— Downstream of Intake
— Downstream of Powerhouse
— Operating Flow

Graphics: courtesy of Ecofish Ltd.

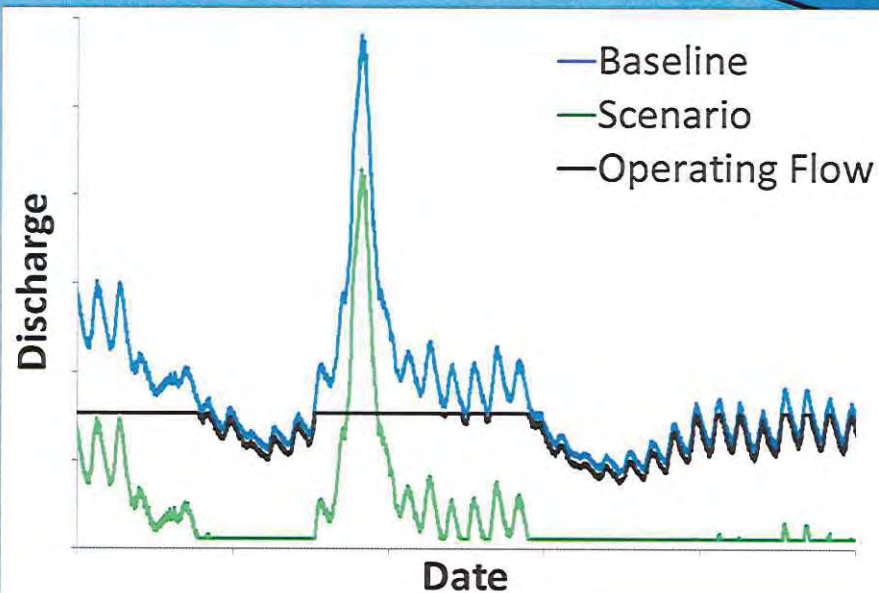
Shut-Down

Discharge

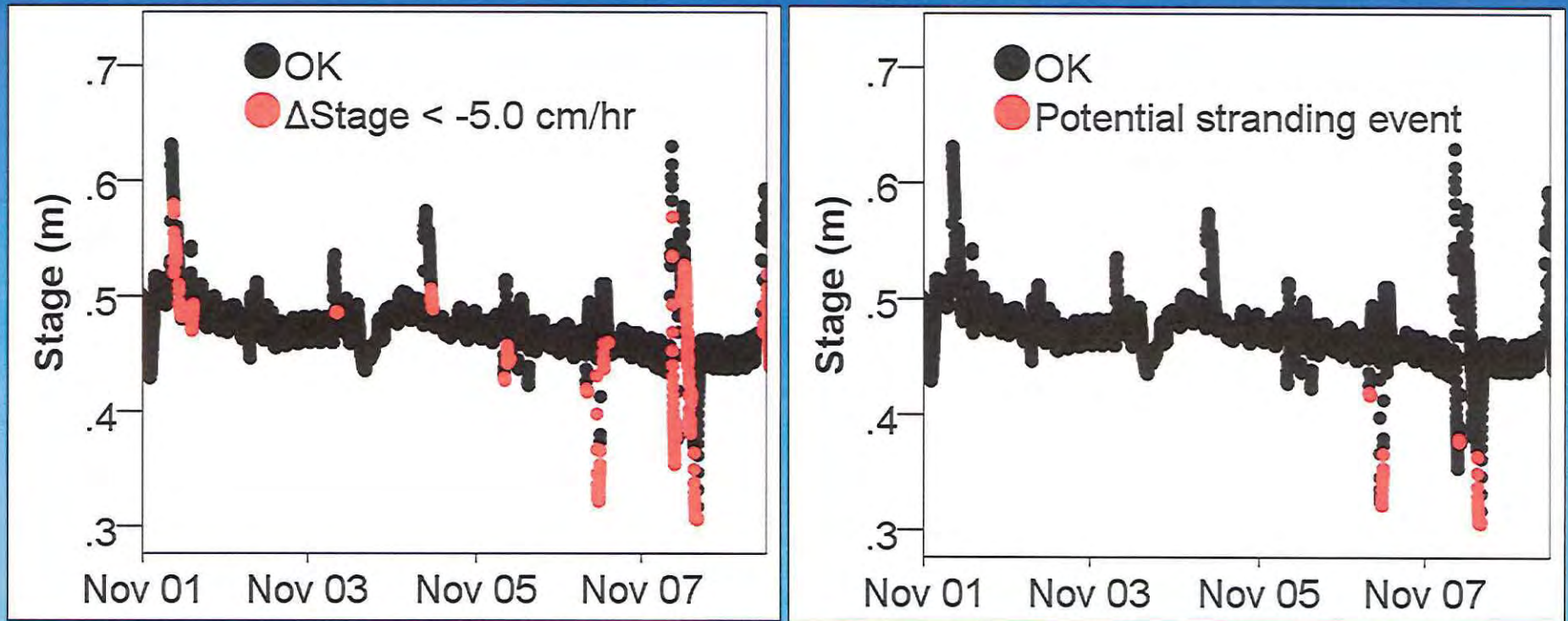


6:00 7:00 8:00 9:00 10:00 11:00

— Downstream of Intake
— Downstream of Powerhouse
— Operating Flow



Apply numerical 'filters' to isolate potential stranding events from all events that exceed a 5 cm/hr threshold:
(see handout)



Details associated with:

- ramping thresholds;
 - methods for identifying non-compliance incidents;
 - requisite mitigative actions (e.g. Agency notification, fish salvage).
- must be specified in an agency-approved OPP.

Current OPP status of South Coast hydropower facilities

SDM satisfied with OPP	Updated OPP reviewed by SDM, but no proponent response	Updated OPP submitted by proponent, not yet reviewed by SDM	OPP Absent
Ashlu	Fire	L. Mamquam	Soo
Fitzsimmons	Stokke	Rutherford	Sechelt
Furry	Tipella	Tyson	Brandywine
U. Mamquam	Douglas	Miller	
	U. Stave	McNair	
	Lamont		
	E. Toba		
	Montrose		
	U. Clowhom		
	L. Clowhom		

General compliance issues identified via Menezes (2010)

- Operational obligations (agency responsibilities)
 - LCO granted before OPPR finalized
 - OPPR revision tracking
 - Consistency among operating documents
- Compliance reports (proponent responsibilities)
 - Missing stream gauge data
 - Unreported incidents
 - Standardization of ramping assessments
 - Non-fulfillment of mitigation requirements
 - Unapproved protocol implementation
- Incident follow-up (agency responsibilities)
 - Limited tracking ability
 - Lack of agency response



Recommendations (Menezes, 2012)

- Compel proponents to update OPPs
- Clarify agency expectations with OPP template
- Release flow ramping guidelines
- Improve coordination with Water Allocation
- Underscore commissioning phase expectations
- Finalize CEP database for incident tracking
- Establish OPP compliance monitoring program



Thanks!

1. Field-based IFR Compliance Monitoring (Babakaiff, 2006)

A Compliance Monitoring Study of IFR provision involving a minimum of five samples collected over a one year period (2004-5) at each of the nine South Coast hydropower facilities in operation at that time found that:

- 1. Less than half the facilities were obligated to directly monitor their own IFR provision (ie. agency staff responsible for data collection & analysis to verify compliance);**
- 2. The only facilities found to be out-of-compliance with IFR provision had been in operation for less than 18 months. These facilities had presumably not yet worked out issues with infrastructure (IFR delivery, bugs in operating systems);**
- 3. All non-compliances in IFR identified by agency staff resulted in discussions with proponent and immediate (typically within a day, inevitably within a month) response to become compliant.**

Recommendation: Future WPP water licenses should require proponents to:

- a) 'self-monitor' ifr provision, including regular submission of data to agencies, and,**
- b) immediately resolve issues related to non-provision of ifr without formal 'requests' from agencies to do so.**

[Epilogue: water licenses for all South Coast water licenses granted after Summer 2006 include this requirement]

The Guidelines also included details on monitoring...

Such as study design & baseline data needs for ‘environmental’ monitoring to assess the likelihood of project-related aquatic impacts being detected after a period of operations.



Hatfield et al (2003) described the underlying logic for environmental monitoring and many of the considerations of an effective monitoring program.

Section 1.14 of Hatfield et al. (2007):

“Based on minimum statistical considerations, monitoring should be conducted for several years, and include pre- and post-project data. Appropriate experimental designs can be developed using: <http://www.stat.sfu.ca/~cschwarz/Consulting/Babakaiff/> and regulatory staff can provide examples of good monitoring programs.”

...but incidents at South Coast hydropower facilities in mid-2000s showed:

- a) the iterative (‘design-build’) nature of project construction & commissioning;
- b) deficiencies in baseline data collection (once license is granted);
- c) Operational non-compliances (IFR & ramping, per water license) in first years of operation.

Highlighting that agency efforts to date had been narrowly focused on Project Review phase, with relatively little consideration or consistency applied to subsequent phases.

We needed to think beyond licensing & IFR...to define & apply a more 'refined' approach for post-licensing phases



So Ecosystems staff & Water Allocation SDMs in South Coast developed a 'Water Permitting Info Requirements' Table for various Phases (e.g. license, construction, commissioning & first years of operation), per guidance given to licensees in recent years.

The Table identifies five general types of information, and five general Phases, specifying what info is required when.

Primary deliverables remain:

- Development Plan (DP);
- Construction Environmental Management Plan (CEMP);
- Operational Environmental Monitoring Plan (OEMP);
- Operational Parameters & Procedures Report (OPPR).

But the Table specifies:

- a) What bits of deliverables must be provided to satisfaction of the SDM for each Phase
e.g. *Pre-CWL*: majority of OEMP baseline biological data collection;
Pre-construction: completion of OEMP baseline biological data analysis, incl. submission of statistical power analysis assessing adequacy of baseline dataset.
- b) Appropriately conservative DP commitments (e.g. default ramp rates) until deliverables in subsequent Phases (e.g. ramping study) are submitted to the satisfaction of SDM;
- c) Identification of key components within the primary deliverables (e.g. "confirmation that proposed commitments in OPPR can be achieved by plant operations").

Effect	Typical Cause
Stream flows downstream of intake that are less than the instream flow requirement (IFR)	Failure of <u>mechanism</u> for IFR provision, typically due to 'bugs' or 'glitches' with operational software for flow diversion/control. Other less-frequent causes are impacts to physical infrastructure (e.g. pipe blockage, coanda screen damage, warping/leakage of rubber dam, etc.) or human error/neglect (at facilities without automated software for diversion & IFR provision).
Streamflow data collected & submitted by the proponent that does not reflect actual streamflow (ie. measurement error)	Imprecise data collection methods (e.g. incorrect current metering during rating curve development, inappropriate equipment, poor site selection), inadequate data archiving (long intervals between data averaging, data downloaded, battery replacements, etc.), or inaccurate (or absent) rating curve to convert stage to discharge.
Rapid changes in stream flow downstream of the intake (ie. in the diversion reach, tailrace, or reaches downstream of the tailrace-diversion reach junction) that result in 'damage or disruption to fish & fish habitat'	Rapid reductions in streamflow can strand fish in pools and peripheral areas, or dessicate eggs&alevins; rapid increases can displace fish&eggs. Most facilities include bypass valves, and have ramping protocol specifying maximum allowable changes in flow diversion, but some facilities experience a large number of 'emergency shutdowns' that prevent application of ramping protocol. Some are truly 'emergency shutdowns' triggered by unforeseeable events (e.g. power surges from lightning strikes on transmission lines) but many are foreseeable (e.g. short-term BCTC shutdowns, seasonal low flows) or attributable to 'bugs' in automated operational software for flow diversion/control.
Project infrastructure (dams) creating barriers to fish migration	Upstream migration prevented by cross-spanning dams without fishways, downstream migration prevented by dewatered streambeds at dam aprons
Changes to natural timing & volume of sediment downstream of the dam	Dam construction obviously effects sediment transport, but many facilities have features (e.g. deflatable dams) that allow throughput of sediment in flood events when sediment transport would be naturally high. However, not all facilities have such features (ie. those with coanda intakes), and most facilities have episodic headpond 'maintenance' activities at low flows (e.g. machine-based excavation) which may unintentionally increase suspended sediment.

...and distilled further into a 9-page checklist

96

Independent Power Production in B.C.

An Inter-agency Guidebook for Proponents

Chapter 5: Water Power

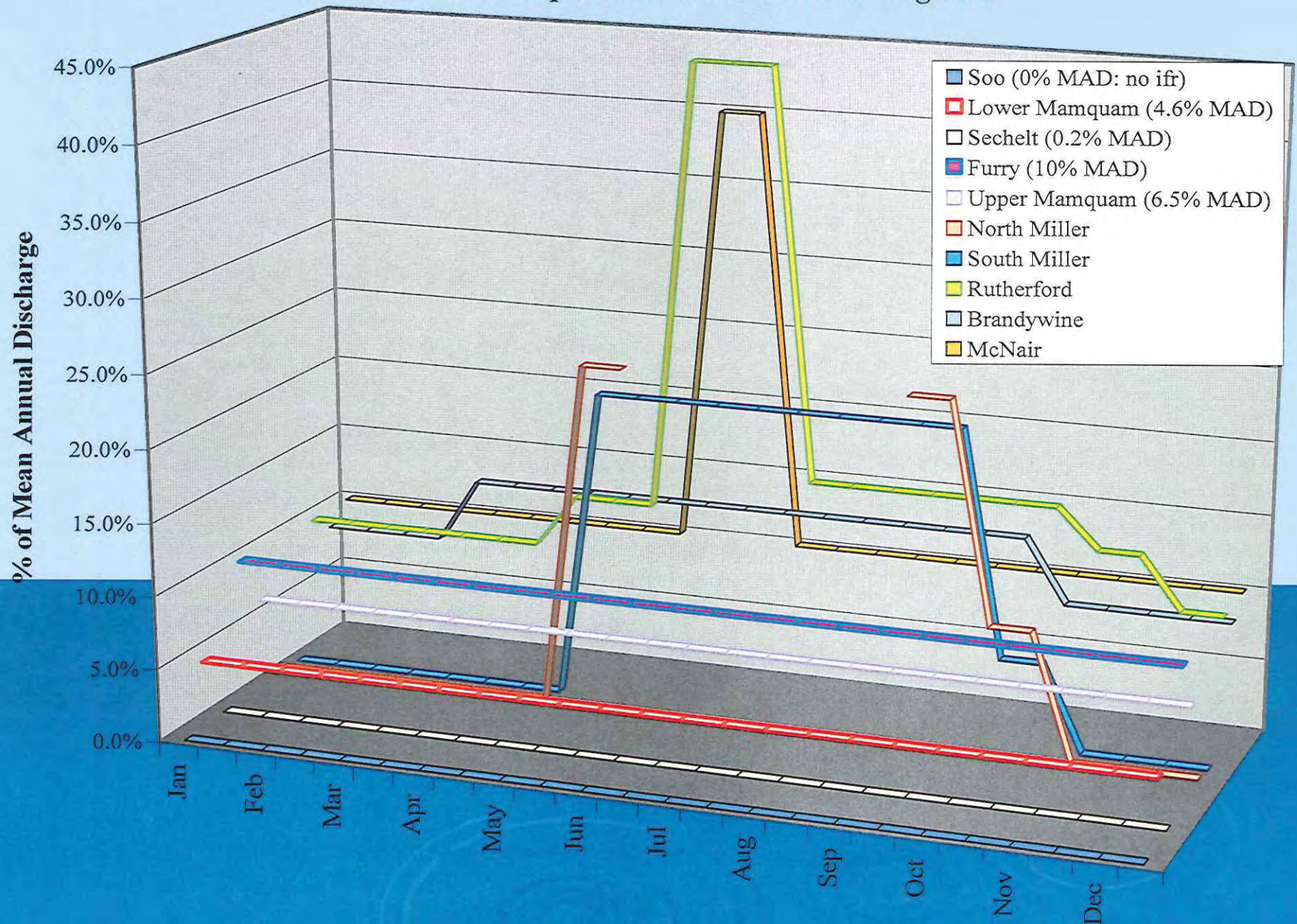
DP Template- (Section 2) Instream flows (this section must integrate all information from DP Section 1)

5. Instream Flow Assessment	MOE-ESD interests	Relevant guideline
19. Based on steps from Section 4.1.1.10 of Lewis <i>et al.</i> (2004): a) Identify the species of concern (there may be more than one). b) Identify all limiting life stage(s) for the species of concern. c) Identify habitat parameters critical to species of interest. d) Identify the most important habitats for the species of concern by month and highest flow requirement. e) Identify critical time periods for species & life history of interest. f) Calculate habitat quantity for the life stage/species of concern in the reaches/mesohabitats of importance during the critical period. There may be multiple critical periods ("habitat bottlenecks"). g) Calculate and plot flow exceedence curves by month for two flow states (natural baseline and post-Project). h) Calculate the duration and magnitude of low flows by season under baseline and post-Project conditions. i) Calculate physical habitat as a function of daily flow for each day in the critical period, using the historic flow record under baseline and post-Project conditions. Also consider a comparison of over-wintering habitat requirements versus that of summer habitat. j) Compare baseline to post-Project conditions (tables, graphs). k) Use site-specific data, scientific literature & professional opinion to interpret biological significance of estimated changes in habitat. Implicit in steps a) to k) are the following requirements (#20-26):	Rationalized minimum instream flows for each week and month; contrast of residual daily flows after diversion and with natural inflows; overlay results on log10 scale. The analysis must be done for an average year, a drought year (i.e. year has a 7-day low flow with a return period > 10 years), and a wet year (i.e. year includes a flood with a return period > 10 years), with specific time benchmarks (e.g. 1976 as a wet year). Provide clear indication of periods & water year types that no diversions will occur	Lewis <i>et al.</i> (2004)
20. Establish at least five permanent surveyed cross-sections in the diversion reach (at locations deemed by a Professional Biologist to be limiting for fish population maintenance at the proposed instream flows) with at least three discharge measurements per cross-section (spread evenly amongst the range of expected post-diversion flows).	Post-project audit to confirm if the habitat-flow analysis requires further refinement	None
21. Photographs at several locations within the diversion reach (including the five cross-sections) at a known discharge, preferably near the lowest instream flow proposed by the proponent.	Supports lack of onsite agency inspection and as a quick perception check	None

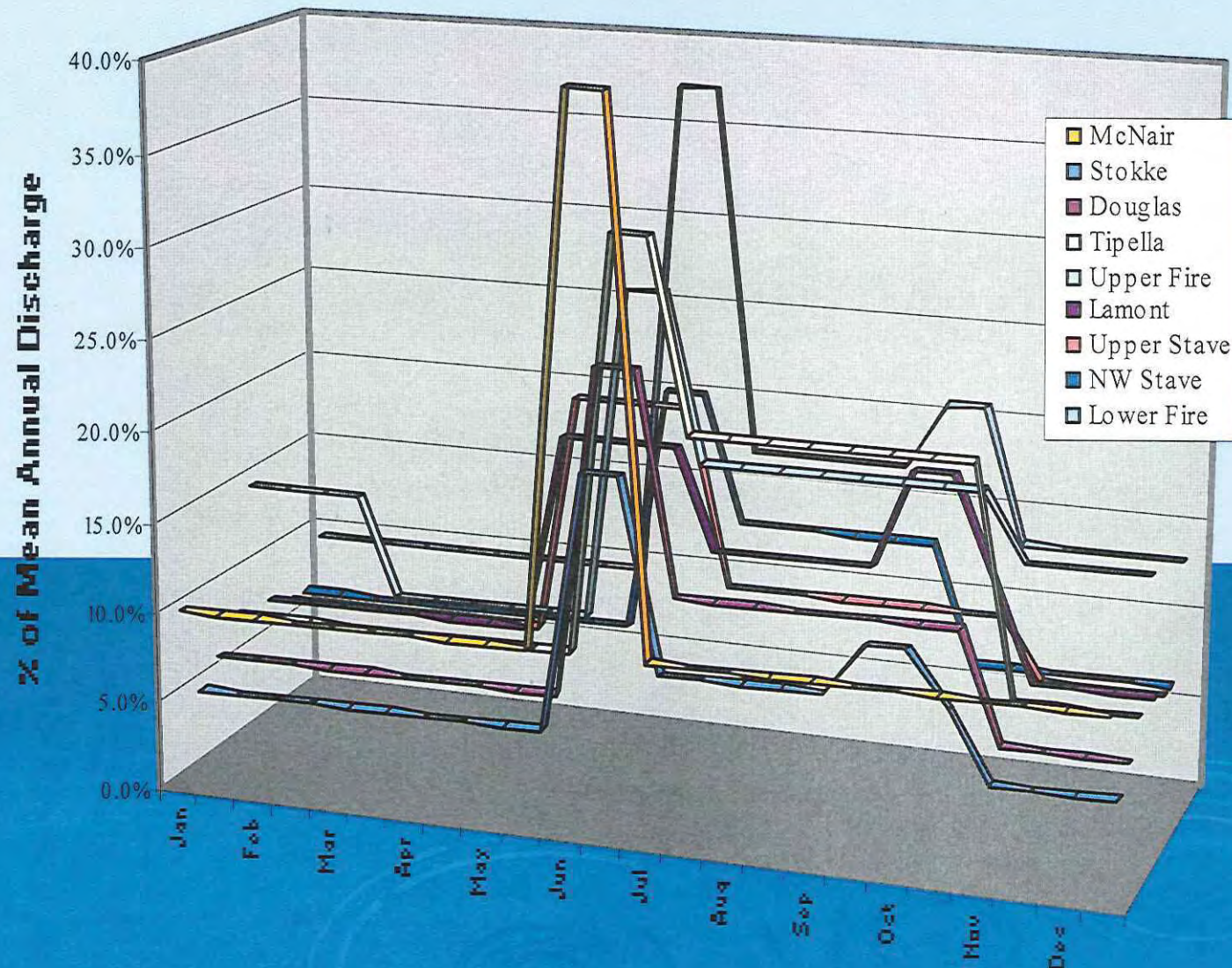
22. Analysis of changes in hydraulic properties at the cross-sections as a function of stream flow. Methods of analysis may be simple (e.g. Riffle Analysis with approved HSI curves, at-a-station hydraulic geometry) or detailed (PHabSim) but must follow standard protocol.	Empirical basis specific to diversion reach conditions to determine IFRs	Instream Flow Council (2004)
23. Proposed instream flows tabulated on a monthly (or bi-weekly, if appropriate) basis, expressed in three flow metrics: flow (l/s or m ³ /s), as a percentage of mean annual discharge (i.e. %MAD) and as the return period of an equivalent 7-day low flow. Proposed instream flows must also be shown graphically, overlaying fish periodicity and residual flows, completed for average, drought and wet years.	Graphical aid to reviewers (and public), supported by the IFR analysis	None
24. Discussion and professional assessment of how proposed instream flows will affect ecological function via five components: a) Flushing Flows and channel maintenance; b) Flood Pulse; c) Connectivity, both within the mainstem and to tributaries & off-channel areas (e.g. sidechannels & wetlands); d) Source of fish behavioural cues; e) Passage and spawning flows.	Likelihood of decreased fish habitat diversity & connectivity; increased frazil ice formation; increased variation in water temperature in diversion reach	Lewis <i>et al.</i> (2004), Hatfield <i>et al.</i> (2007)
25. Consideration of how the maximum quantity of water to be diverted will affect post-diversion sediment transport. Specifically, how will the frequency of channel-forming flows be affected by the proposed maximum flow diversion?	Post-diversion frequency of channel-forming flows (e.g. flows >400%MAD) versus pre-diversion	None
26. Discussion and professional assessment of how proposed instream flows will affect: a) fish periodicity, abundance & distribution; b) abundance & distribution of other species in the Project Area; c) mesohabitat (proportions & proper function) for fish; d) stream channel stability (lateral and vertical).	Integrated effect of proposed flow diversion on biota and associated habitat in Project Area.	None

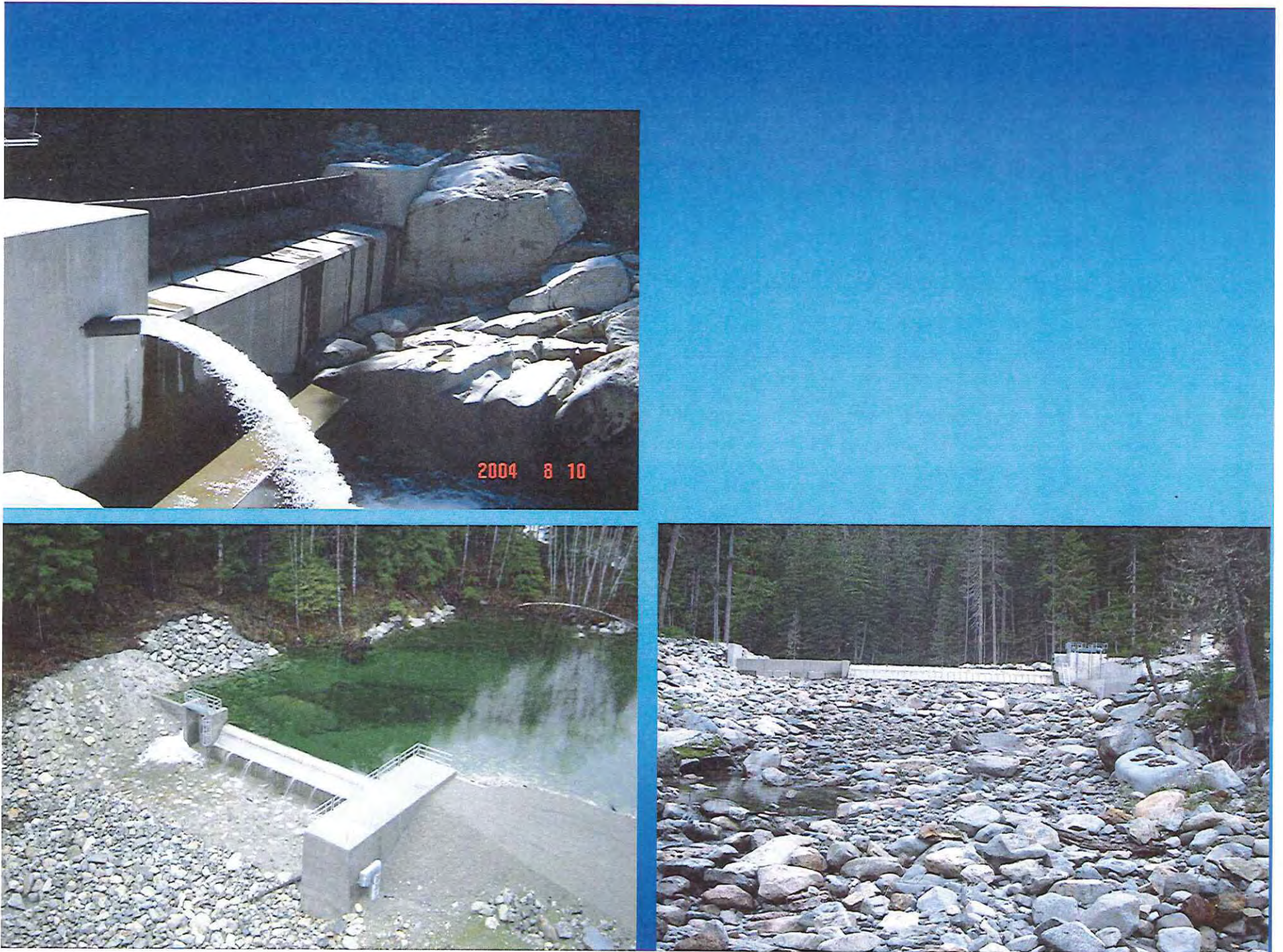


Instream Flow Requirements for WPPs in Region 2



Instream Flow Requirements negotiated since 2004 for hydropower facilities in MOE Lower Mainland Region





Water Power Projects Compliance Workshop

July 5, 2012
8:30am – 12:00pm

1st Floor Boardroom - Environmental Assessment Office, Victoria

Session Objective: A common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues

Time	Agenda Item	Presenter	Duration
8:30	Welcome and introductions (Coffee, tea and muffins provided) Overview of the day: <ul style="list-style-type: none"> Meeting objectives Review of the agenda 	Michelle Carr Sandra Baan & Lisa La Rose (Facilitators)	5 mins 10 mins
8:45	EAO Overview <ul style="list-style-type: none"> Scope of the issue Q's and A's 	Tim Hicks	10 mins
8:55	Water Power Projects & Fish <ul style="list-style-type: none"> What is flow ramping? Compliance case study Q's and A's 	Scott Babakaiff	20 mins
9:15	Brainstorm of Key Issues to Develop a Common Understanding <ul style="list-style-type: none"> Current compliance management approaches and gaps in terms of types of non-compliance Compliance management approaches to prevent/resolve the gaps identified 	All (sticky note exercise)	50 mins
10:05	Coffee Break (Coffee and tea provided)		10 mins
10:15	Recap of Morning and Overview of Next Activity	Sandra Baan & Lisa La Rose	10 mins
10:25	Action Plan Development and Recommendations – Concurrent Sessions on the Front and Back End of Compliance Group action 1 – Technical solutions (e.g., setting requirements, expertise needed) Group action 2 – Process solutions (e.g., government coordination)	All	40 mins
11:05	Report Back to Broader Group <ul style="list-style-type: none"> Group discussion on action plan and key recommendations 	Point person from each group	40 mins
11:45	Next Steps and Roundtable Discussion on Any Outstanding Issues Needing Attention	Tim Hicks/All	15 mins



WATER POWER PROJECT COMPLIANCE MANAGEMENT WORKSHOP BACKGROUNDER

Workshop Information:
July 5th, 2012
8:30am – 12:00pm
EAO 1st Floor Boardroom

Context

Run-of-river hydroelectric projects, or water power projects, divert water flows through turbines to generate power. They provide a renewable, non-polluting source of energy, with relatively stable pricing due to the province's cost-based regulation of rates. Because these projects provide a cleaner way to generate energy than the burning of fossil fuels, the number of water power projects in the province has increased significantly over the past decade. However, despite being a "clean" energy source, water power projects can still significantly impact aquatic and terrestrial environments, as well as cultural and recreational values. To prevent or mitigate potential adverse effects, these projects undergo reviews before approval. The review process for a water power project is dependent upon the size of the project. Projects with a rated nameplate capacity of 50MW or greater are required to undergo an environmental assessment (EA) under the *Environmental Assessment Act*. Currently there are 9 EA certified projects in BC, and 43 operating sub-EA threshold water power projects. Additionally, another 17 water power projects are currently undergoing the EA process. Approximately 50% of these projects are active. The typical layout of a water power project is shown in Figure 1 below.

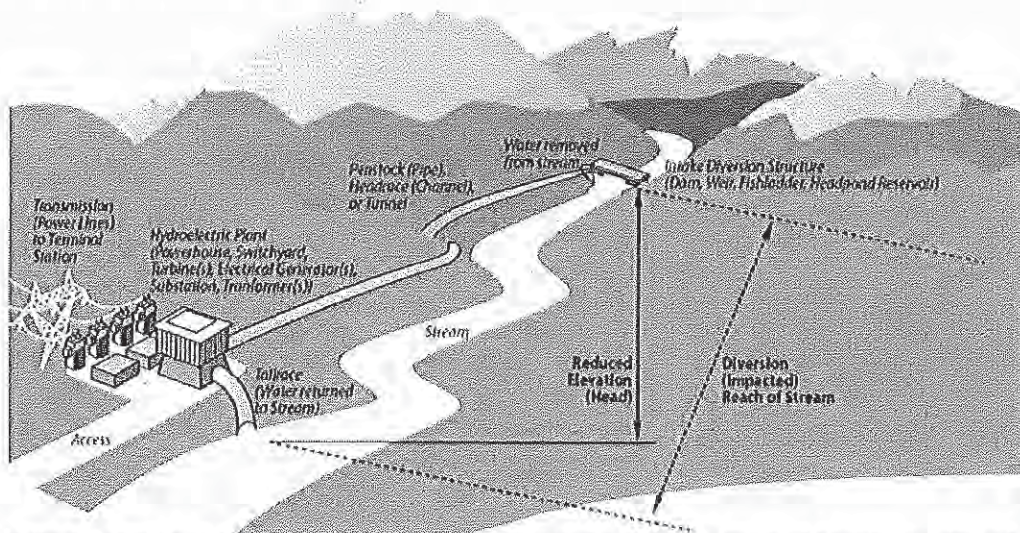


Figure 1: Drawing of a 'typical' run-of-river hydroelectric project (Ministry of Forests, Lands and Natural Resource Operations, 2011)

Potential Impacts

Some of the potential impacts from water power projects include:

Aquatic Environments	Terrestrial Environments
<ul style="list-style-type: none"> • Damage or loss of/to streamside (riparian) vegetation • Dams can inhibit movement of fish and organic materials downstream • Fish impingement (when fish are pinned against the penstock intake) and entrainment (when fish 	<ul style="list-style-type: none"> • Habitat fragmentation due to roads and transmission lines • Impacts to wildlife due to increased noise and human activity • Introduction of invasive species • Loss of recreational opportunities for kayakers,

are drawn into the penstock) • Reduced flows causing decreased water velocity and depth, which can lead to fluctuating water temperatures and fish mortality	fishermen etc. • Erosion of materials into waterways during construction
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These impacts are usually prevented or mitigated through review processes that result in legally binding conditions – such as EA certificate and permit conditions – that projects must adhere to. Instances of non-compliance on run of river hydroelectric projects can lead to unexpected, and sometimes significant, adverse effects to environmental, social, health, heritage and economic values. Recently, two water power projects near Squamish, BC caused fish mortality when fluctuating water levels from inconsistent water diversion rates left fish stranded. A study conducted by the Ministry of Forests, Lands, and Natural Resource Operations (FLNRO) in 2010 noted ramping non-compliance issues on water power projects in the South Coast region were common. The study made a number of recommendations to address non-compliance which include improved coordination across government, the establishment of a monitoring program, and the clarification of agency roles.

Implications

In addition to resulting in adverse effects, instances of non-compliance can reflect negatively on the BC environmental assessment process and authorization review processes. Given the range of impacts that can result from non-compliance, promoting and maintaining compliance is critical. A comprehensive and coordinated multi-agency compliance management strategy for water power projects can effectively ensure compliance by using an appropriate set of compliance management tools, such as measurable and enforceable requirements, professional reliance, government inspections, and enforcement.

To promote addressing issues of non-compliance on EA projects, the BC EAO has created a comprehensive monitoring, compliance and enforcement program. The success of this program relies heavily on interagency coordination across government to determine best practices, better clarify roles and responsibilities, and to avoid the duplication of efforts. The July 5th workshop on Water Power Project Compliance Management provides another venue for cross government involvement and collaboration specifically relating to water power projects.

Coordinated compliance management programs provide assurance to the public that projects are meeting legal requirements and therefore preventing or reducing adverse effects as anticipated.

Water Power Project Compliance Management Workshop

The objective of this session is to build a common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues.

This workshop will initiate work on a strategy to coordinate multi-agency compliance management efforts in ways that fill compliance management gaps while at the same time avoid duplication. The session will begin with an overview and discussion of non-compliance issues, current solutions, gaps in compliance oversight and then lead into a collaborative identification of solutions. The front and back ends of compliance management will be discussed, and both technical and process solutions will be examined.

Contact:

Name: Michelle Carr
Title: Executive Director of Strategy and Quality Assurance
Phone: (250) 387-6748

Name: Brian Murphy
Title: Executive Project Director
Phone: (250) 387-2402

Prepared by:

Name: Carley Cocco
Title: Policy and Legislative Advisor
Phone: (250) 387-2446

Spiteri, Bailey EAO:EX

From: Coccola, Carley ENV:EX
Sent: Thursday, January 31, 2013 5:05 PM
To: Bonnyman, Sue EMNG:EX
Cc: Carr, Michelle EAO:EX
Subject: RE: water power workshop action plans
Attachments: July 5 Workshop Action Plan DRAFT.docx; Water Power Compliance Action Plan_1Oct2012.docx

Hi Sue,

Attached are two draft versions of the July 5th workshop on compliance management for water power projects action plan. The October 2012 document is the most recent iteration of the action plan.

Should you have any questions or concerns regarding these attachments, please do not hesitate to let me know.

Cheers,

Carley Coccola | Policy and Legislative Advisor | Environmental Assessment Office
T 250.387-2446 | s.17 | F 250.387-6762 | Carley.Coccola@gov.bc.ca

From: Carr, Michelle EAO:EX
Sent: Thursday, January 31, 2013 4:31 PM
To: Coccola, Carley EAO:EX
Cc: Bonnyman, Sue EMNG:EX
Subject: water power workshop action plans

Hi, Carley.

Can you please send Sue Bonnyman the two drafts of the action plans that came out of the water power workshop? I believe there is a detailed one that was subsequently rolled up into the higher level summary.

Thanks,
Michelle

Michelle Carr | Executive Director, Policy and Quality Assurance
BC Environmental Assessment Office
Phone: (250) 387-6748 | Email: michelle.carr@gov.bc.ca

July 5th Run of River Compliance Management Workshop – DRAFT ACTION PLAN

Issue	Solution	Agency	Lead	Timeline
Coordination - EAO and permitting - Government and DFO - Working groups	<ul style="list-style-type: none"> Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> LEAN process Compliance management plans (CMPs) 	C&E Branch DFO EAO FLNRO	C&E Branch DFO EAO FLNRO	
Monitoring and Compliance - Annual conference for lessons learnt, knowledge sharing, baseline data etc. (technical focus) - Lack of provincial consistency of monitoring and compliance	<ul style="list-style-type: none"> Work with Clean Energy BC on issues and solutions Clean energy “clean” relationship to “clean” monitoring and compliance Provincial consistency (remove interpretation) <i>E.g. Language in commitments which can fall on regional staff to enforce</i> → Link to operational parameters and procedures (OPP), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs) 	EAO and others	Brian Murphy EAO Heather MacKnight	
“One Process” - Accountability - Roles and responsibilities - Lack of coordination - Qualified persons (QPs) to manage workload	<ul style="list-style-type: none"> Map out processes and define Find redundancies (different functions from prior priorities restructuring) “Legacy work” Compliance communication Staff knowledge base <ol style="list-style-type: none"> The who (Needs) Form and function of staff Training 	C&E Branch DFO EAO FLNRO IE IEM	Brian Murphy Heather MacKnight	Fall 2012 (Draft)
Post Permitting	<ul style="list-style-type: none"> Communication with regions Roles and responsibilities Communications strategy 			
Ramping	<ul style="list-style-type: none"> Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i> Security funds Online database for reports from independent environmental monitors Independent compliance monitors BC Hydro <i>E.g. Auditing, MOU with the COS</i> Leverage industry across sectors versus individual projects 	EAO, FLNRO → MEM Policy	EAO Project Managers, leads, and experts	Independent compliance review = During construction and after 2 years operating
Regional Priorities - Inconsistent use of guidance, policy and procedures	<ul style="list-style-type: none"> Enforceable decision to do things Provincially <i>E.g. Water Act Modernization</i> 			
Reporting - Environmental monitors, independent environmental monitors	<ul style="list-style-type: none"> Online submission Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i> Consolidating, permitting Re: compliance audit process vs. inspection? 	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry of Finance)</i>		

Risk Management - Variation in approaches	• Risk management training			
Tools and Templates - Operational parameters and procedures (OPP), operational environmental management plans (OEMPs)				

Workshop on Compliance Management for Water Power Projects
July 5, 2012

DRAFT Action Plan – September 2012

Issue	Action	Estimated Timeline (refine timelines with workshop participants)	Lead
Compliance verification	<ul style="list-style-type: none"> Focus EA Certificate inspections on run of river projects 	Underway	EAO, FLNRO
	<ul style="list-style-type: none"> Develop strategy for proactive verification of compliance with ramping/instream flow requirements 	March 2013	FLNRO
	<ul style="list-style-type: none"> Develop strategy for increasing government capacity to review and respond to independent monitoring reports OR alternate monitoring models that are less staff intensive, such as IT solutions 	March 2013	FLNRO
Compliance planning and promotion	<ul style="list-style-type: none"> EAC conditions for new projects: require adaptive management programs for developing instream flow requirements and ramping rates for run of river projects 	December 2012	EAO
	<ul style="list-style-type: none"> Use of security deposits 	March 2013	FLNRO, building on research already done by Sandra B
Inconsistent Tools and Templates	<ul style="list-style-type: none"> Develop templates for operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), and construction environmental management 	March 2013	FLNRO

	plans (CEMPs)		
	<ul style="list-style-type: none"> • Work with industry (e.g. Clean Energy BC) to identify issues and solutions 	March 2013	All FLNRO, and EAO (through the Clean Energy Client Advisory Committee)
Coordination	<ul style="list-style-type: none"> • Circulate draft action plan to workshop participants 	October 2012	EAO
	<ul style="list-style-type: none"> • Organize a meeting to discuss the action plan and determine further steps to track deliverables of respective agencies. 	November 2012	EAO to organize initial meeting; all to participate
	<ul style="list-style-type: none"> • Collaborate with other government agencies on compliance management plans for EA projects (including through MOE/EAO Corporate LEAN project) 	Initiated, deepen collaboration by December 2012	EAO
	<ul style="list-style-type: none"> • Report on actions, and lessons learned 	prior to end of March, 2013	EAO and FLNRO

Spiteri, Bailey EAO:EX

From: Murphy, Brian EAO:EX
Sent: Wednesday, January 23, 2013 9:41 AM
To: Murphy, Brian EAO:EX; Carr, Michelle EAO:EX
Cc: Leake, Greg EAO:EX; Scraba, Erin H EAO:EX
Subject: RE: URGENT: IN needed on Run-of-river sector - re article in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun
Attachments: Another Issue

Here are 7 issues that FLNRO identified last April with the post construction of these projects. Note the 15, 000 pages of monitoring reports with limited capacity to review.

Brian

From: Murphy, Brian EAO:EX
Sent: Wednesday, January 23, 2013 9:38 AM
To: Carr, Michelle EAO:EX
Cc: Leake, Greg EAO:EX; Scraba, Erin H EAO:EX
Subject: RE: URGENT: IN needed on Run-of-river sector - re article in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

Here is the power point that the article refers to.

Brian

From: Carr, Michelle EAO:EX
Sent: Wednesday, January 23, 2013 9:15 AM
To: Murphy, Brian EAO:EX; Hartley, Brenda FLNR:EX
Cc: Scraba, Erin H EAO:EX; Leake, Greg EAO:EX; O'Connor, Lisa EAO:EX
Subject: URGENT: IN needed on Run-of-river sector - re article in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

Hi, Brian and Brenda

FYI, we are in the process of starting to draft this IN which is due asap. Erin's team will connect with you if you are available to review the draft.

If you have any specific suggested responses that would be appreciated.

Thanks!

From: Leake, Greg EAO:EX
Sent: Wednesday, January 23, 2013 9:05 AM
To: Nikolejsin, Dave EAO:EX

Cc: Cochrane, Marlene EAO:EX; Kennedy, Karla EAO:EX; Mycroft, Colleen EAO:EX; Carr, Michelle EAO:EX
Subject: FW: TNO: Run-of-river sector in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

Dave – FYI. The MO has asked for an IN on EAO's compliance and enforcement program re: run-of-river hydro projects. I'll follow up with Michelle's team.

Greg Leake
Director, Client Communications and Engagement
British Columbia Environmental Assessment Office
Telephone: 250-387-2470

From: Wright, Jenn ENV:EX
Sent: Wednesday, January 23, 2013 8:55 AM
To: Leake, Greg EAO:EX
Cc: Loiacono, Sabrina ENV:EX
Subject: FW: TNO: Run-of-river sector in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

FYI – from FLNRO this morning.

From: tno@gov.bc.ca [<mailto:tno@gov.bc.ca>]
Sent: Wednesday, January 23, 2013 05:20 AM Pacific Standard Time
Subject: TNO: Run-of-river sector in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

Run-of-river sector in regulatory disarray, documents suggest
Vancouver Sun
23-Jan-2013
Page A07
By Larry Pynn



The independent run-of-river power sector is in regulatory disarray, following inconsistent rules designed to protect fish and with provincial officials hard-pressed to crack down due to lack of staff and resources, freedom-of-information documents show.

The Ministry of Forests, Lands and Natural Resource Operations states in a staff report approved by Julia Berardinucci, director of resource management in Surrey, there were 749 non-compliance incidents from a total of 16 hydro plants in southwest B.C. in 2010.

They included 313 incidents related to ramping (fluctuating water levels), 292 of not notifying government official of problems, 101 to not fulfilling mitigation requirements, and 43 to not maintaining in-stream flow rates.

Flow rates ensure there is sufficient water for fish downstream of power plants, while ramping rates (typically associated with the shutdown of a power plant for maintenance or an unanticipated failure) let water levels fluctuate gradually so young fish won't be stranded.

"There has been a lack of resources (staff, database tools) ... to track/ monitor compliance at various facilities," ministry engineering assistant Charlene Menezes writes in a document dated March 29, 2012.

His report recommends a compliance monitoring program and a database to track incidents of noncompliance.

Gwen Barlee, the Wilderness Committee policy director who obtained the documents, said in an interview Tuesday that the documents confirm that the run-of-river sector "does not have proper oversight and can't even meet low environmental standards."

She described the 749 incidents of non-compliance as "mind boggling" and noted, for example, that non-compliance at the Furry Creek hydro plant near Squamish continued for 27 months but was reported as one incident.

Paul Kariya, executive director of Clean Energy B.C., which represents run-of-river projects, said the industry "is trying to do better ... and where we can improve - and we're always in a learning mode - yes, we're all for it."

"I'm not denying that ramping incidents that hurt fish do occur; certainly they do, as they would for BC Hydro."

Ministry spokeswoman Vivian Thomas said the purpose of the report was to inform decision-makers on "potential compliance issues, so they can set appropriate conditions for projects under review."

The province is aware of three incidents that resulted in fish strandings and kills in 2010: one fish killed and one stranded on the lower Mamquam, 52 fish stranded and six killed on the upper Stave, and 166 stranded and 87 killed on Ashlu Creek.

lpynn@vancouver.sun.com

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Spiteri, Bailey EAO:EX

From: MacKnight, Heather FLNR:EX
Sent: Friday, March 30, 2012 8:11 AM
To: Murphy, Brian EAO:EX
Subject: Another Issue

s.13

Heather MacKnight
Regional Executive Director, South Coast
Ministry of Forests, Lands and Natural Resource Operations
604-586-2892

From: Murphy, Brian EAO:EX
Sent: Thursday, March 29, 2012 12:46 PM
To: MacKnight, Heather FLNR:EX
Subject: RE: First Draft of Issues

Thanks Heather. I will circulate to MOE and FLNRO to add to the list as well as EAO issues but looks like you have captured most of ours.

Brian

From: MacKnight, Heather FLNR:EX
Sent: Thursday, March 29, 2012 12:27 PM
To: Murphy, Brian EAO:EX
Subject: First Draft of Issues

s.13

Heather MacKnight

Regional Executive Director, South Coast
Ministry of Forests, Lands and Natural Resource Operations
604-586-2892

Spiteri, Bailey EAO:EX

From: Murphy, Brian EAO:EX
Sent: Wednesday, January 23, 2013 9:38 AM
To: Carr, Michelle EAO:EX
Cc: Leake, Greg EAO:EX; Scraba, Erin H EAO:EX
Subject: RE: URGENT: IN needed on Run-of-river sector - re article in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun
Attachments: Operational Non-Compliance at South Coast IPPs.pdf

Here is the power point that the article refers to.

Brian

From: Carr, Michelle EAO:EX
Sent: Wednesday, January 23, 2013 9:15 AM
To: Murphy, Brian EAO:EX; Hartley, Brenda FLNR:EX
Cc: Scraba, Erin H EAO:EX; Leake, Greg EAO:EX; O'Connor, Lisa EAO:EX
Subject: URGENT: IN needed on Run-of-river sector - re article in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

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Cc: Cochrane, Marlene EAO:EX; Kennedy, Karla EAO:EX; Mycroft, Colleen EAO:EX; Carr, Michelle EAO:EX
Subject: FW: TNO: Run-of-river sector in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

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Sent: Wednesday, January 23, 2013 8:55 AM
To: Leake, Greg EAO:EX

Cc: Loiacono, Sabrina ENV:EX

Subject: FW: TNO: Run-of-river sector in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

FYI – from FLNRO this morning.

From: tno@gov.bc.ca [mailto:tno@gov.bc.ca]

Sent: Wednesday, January 23, 2013 05:20 AM Pacific Standard Time

Subject: TNO: Run-of-river sector in regulatory disarray, documents suggest - Larry Pynn - Vancouver Sun

Run-of-river sector in regulatory disarray, documents suggest

Vancouver Sun

23-Jan-2013

Page A07

By Larry Pynn



The independent run-of-river power sector is in regulatory disarray, following inconsistent rules designed to protect fish and with provincial officials hard-pressed to crack down due to lack of staff and resources, freedom-of-information documents show.

The Ministry of Forests, Lands and Natural Resource Operations states in a staff report approved by Julia Berardinucci, director of resource management in Surrey, there were 749 non-compliance incidents from a total of 16 hydro plants in southwest B.C. in 2010.

They included 313 incidents related to ramping (fluctuating water levels), 292 of not notifying government official of problems, 101 to not fulfilling mitigation requirements, and 43 to not maintaining in-stream flow rates.

Flow rates ensure there is sufficient water for fish downstream of power plants, while ramping rates (typically associated with the shutdown of a power plant for maintenance or an unanticipated failure) let water levels fluctuate gradually so young fish won't be stranded.

"There has been a lack of resources (staff, database tools) ... to track/ monitor compliance at various facilities," ministry engineering assistant Charlene Menezes writes in a document dated March 29, 2012.

His report recommends a compliance monitoring program and a database to track incidents of noncompliance.

Gwen Barlee, the Wilderness Committee policy director who obtained the documents, said in an interview Tuesday that the documents confirm that the run-of-river sector "does not have proper oversight and can't even meet low environmental standards."

She described the 749 incidents of non-compliance as "mind boggling" and noted, for example, that non-compliance at the Furry Creek hydro plant near Squamish continued for 27 months but was reported as one incident.

Paul Kariya, executive director of Clean Energy B.C., which represents run-of-river projects, said the industry "is trying to do better ... and where we can improve - and we're always in a learning mode - yes, we're all for it.

"I'm not denying that ramping incidents that hurt fish do occur; certainly they do, as they would for BC Hydro."

Ministry spokeswoman Vivian Thomas said the purpose of the report was to inform decision-makers on "potential compliance issues, so they can set appropriate conditions for projects under review."

The province is aware of three incidents that resulted in fish strandings and kills in 2010: one fish killed and one stranded on the lower Mamquam, 52 fish stranded and six killed on the upper Stave, and 166 stranded and 87 killed on Ashlu Creek.

lpynn@vancouver.sun.com

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Operational Non-Compliance at IPPs in the South Coast Region

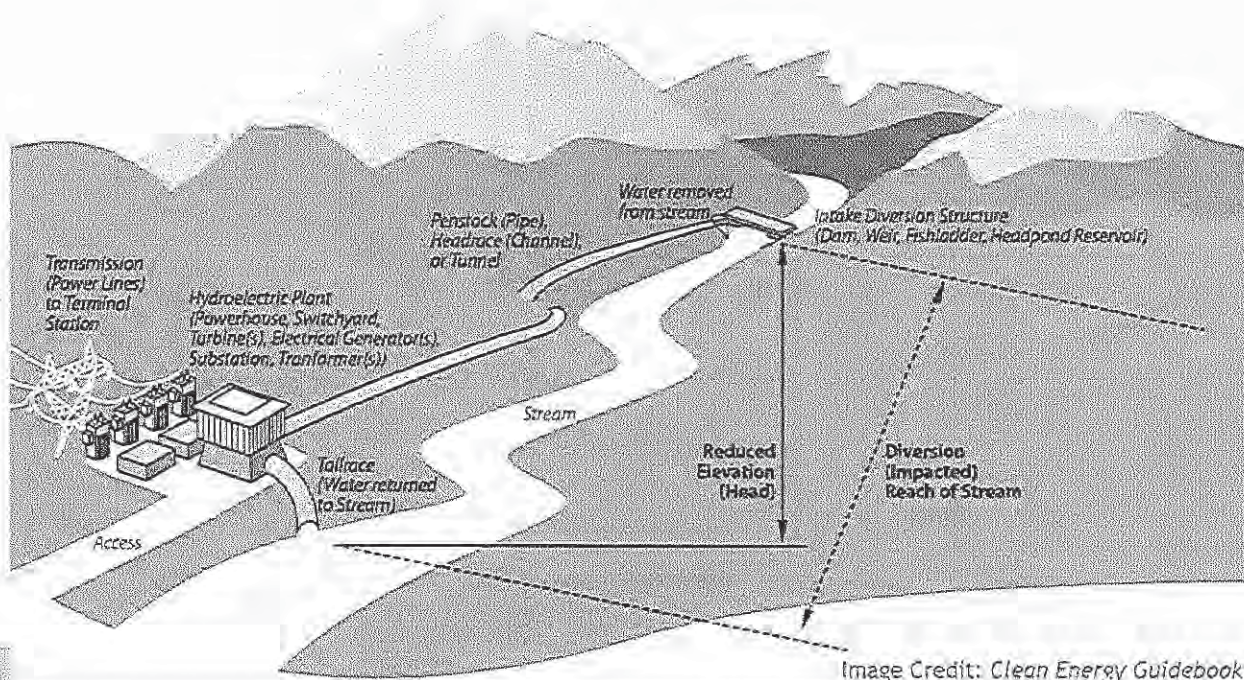


Image Credit: Clean Energy Guidebook

Charlene Menezes
M.Eng., P. Geo.

April 4, 2012

Context



- 22 operational IPPs on South Coast, 3 imminent
- Number of documented non-compliances
- Limited ability to respond to non-compliances
- Failure to address non-compliance:
 - causing known & unknown ecological impacts
 - undermines public confidence in industry and government
- Led to review of operational commitments & compliance assessment

OPPRs: A Primer

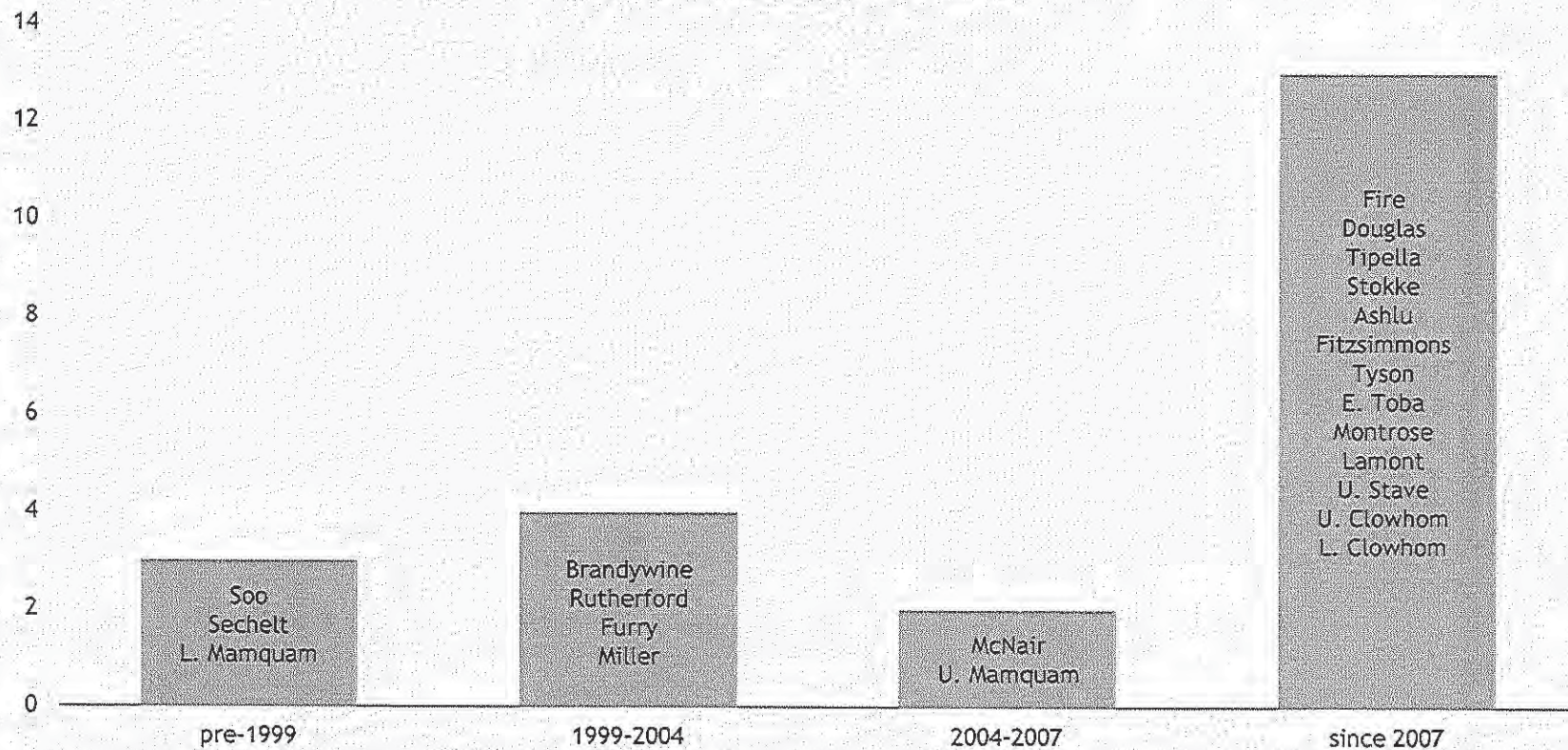


- **Operating Parameters and Procedures Report**
 - submission is a condition of the water license
- **Describes what?**
 - key operating parameters
 - how facility will be operated and monitored
 - requirement to undertake mitigative actions
 - reporting commitments
- **Importance**
 - enshrines commitments related to water use
 - applies over lifespan of facility

Regulatory Setting



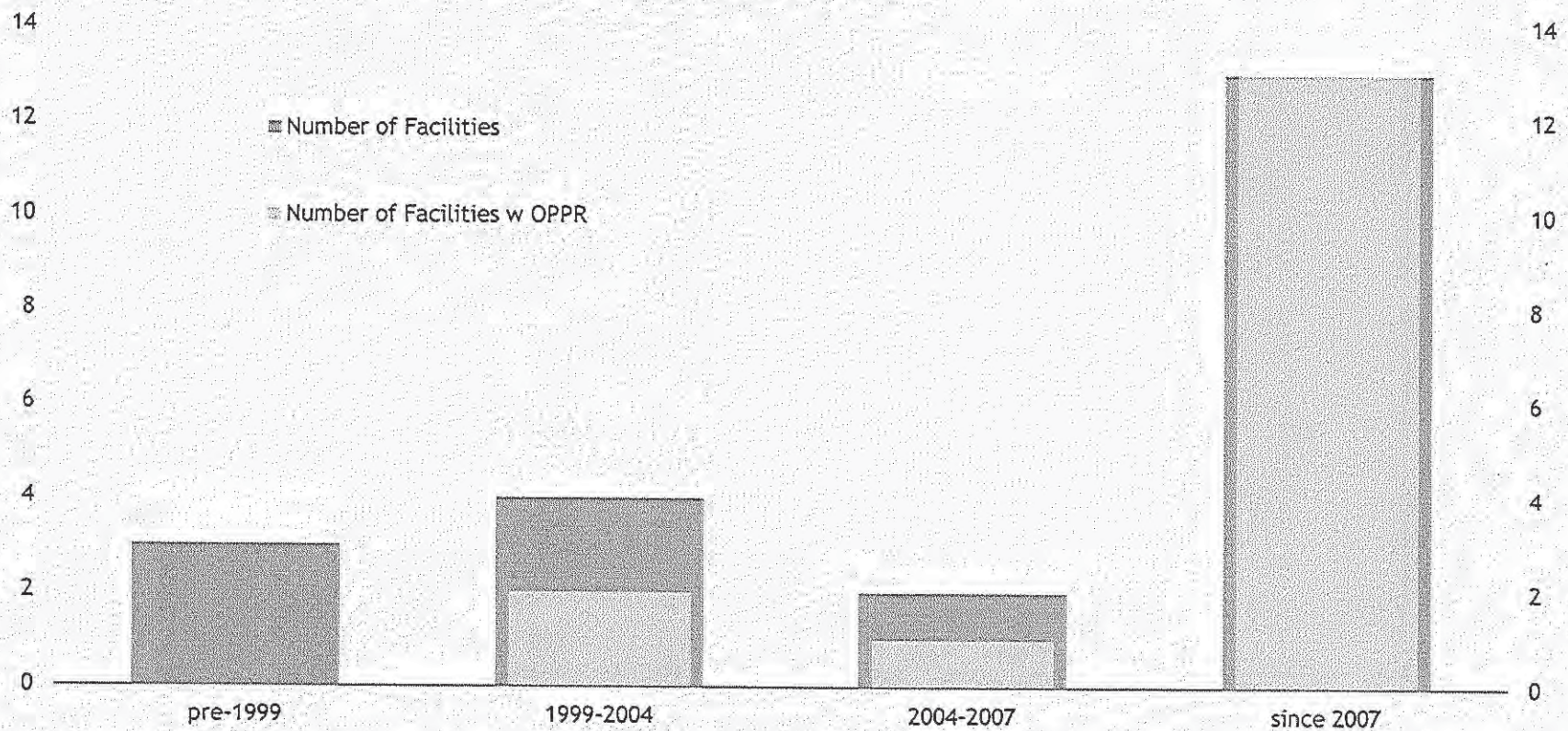
Number of Facilities on the South Coast
by Power Initiation Period



Regulatory Setting



Proportion of Facilities on the South Coast with Commitments at time of Licensing

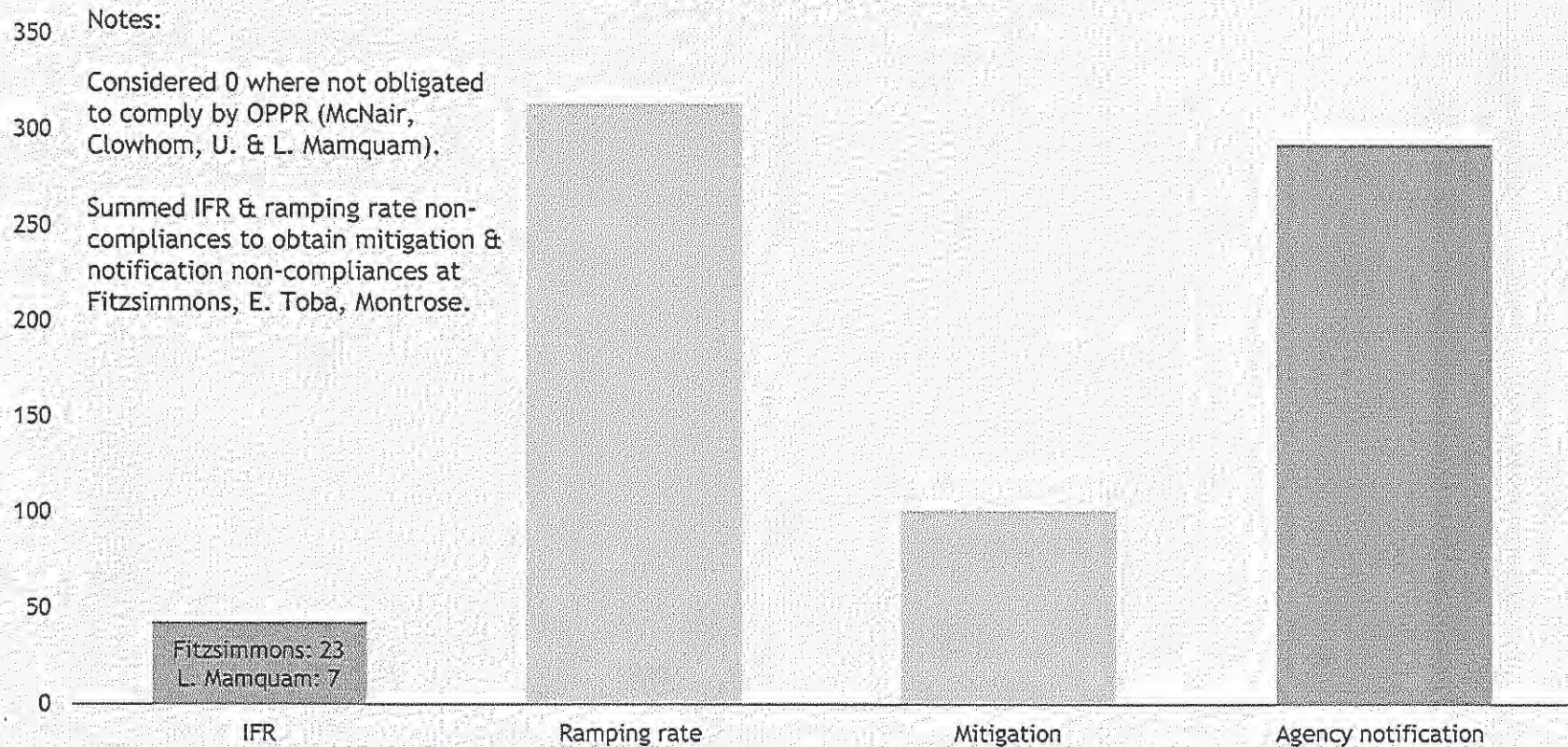


Note: Within OPPR, facilities may selectively commit to monitoring, mitigating, and reporting.

2010 Compliance Assessment



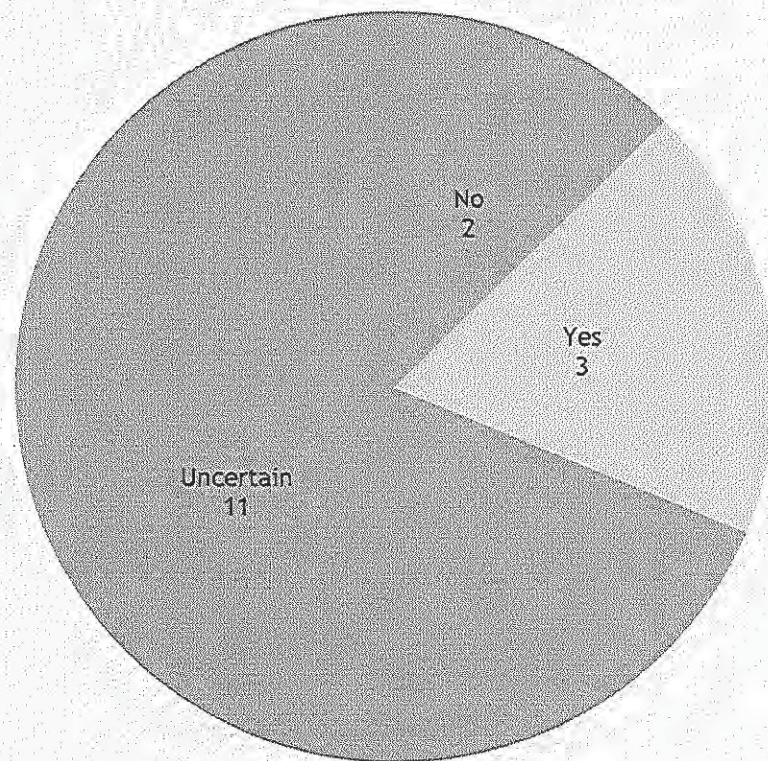
Number of non-compliances at 16 facilities
on the South Coast in 2010



2010 Compliance Assessment



Number of facilities on the South Coast in 2010
where fish were stranded or killed



2010 Compliance Assessment



Incidents on the South Coast in 2010 where fish were stranded or killed

Facility	Period of monitoring	# of non-compliance incidents	# of incidents impacting fish	# of fish stranded	# of fish killed
L. Mamquam	Sep - Dec	13	3	1	1
Ashlu	Jan - Dec	4	3	166	87
U. Stave	Jan - Dec	2	1	52	6

Notes:

- Lower Mamquam had number of stranding incidents; not known how many fish were impacted.
- Ashlu was in commissioning in 2010, so not obligated to report incidents.

Compliance Issues



- **Operational obligations**
 - LCO granted before OPPR finalized & accepted
 - OPPR revision tracking
 - Consistency among operating documents
- **Compliance reports**
 - Missing stream gauge data
 - Unreported incidents
 - Absence of flow ramping guidelines
 - Insufficient follow-through in mitigation
 - Protocol implementation w/o adequate justification
- **Incident follow-up**
 - Limited tracking ability
 - Lack of agency response

OPPR Template Recommendations

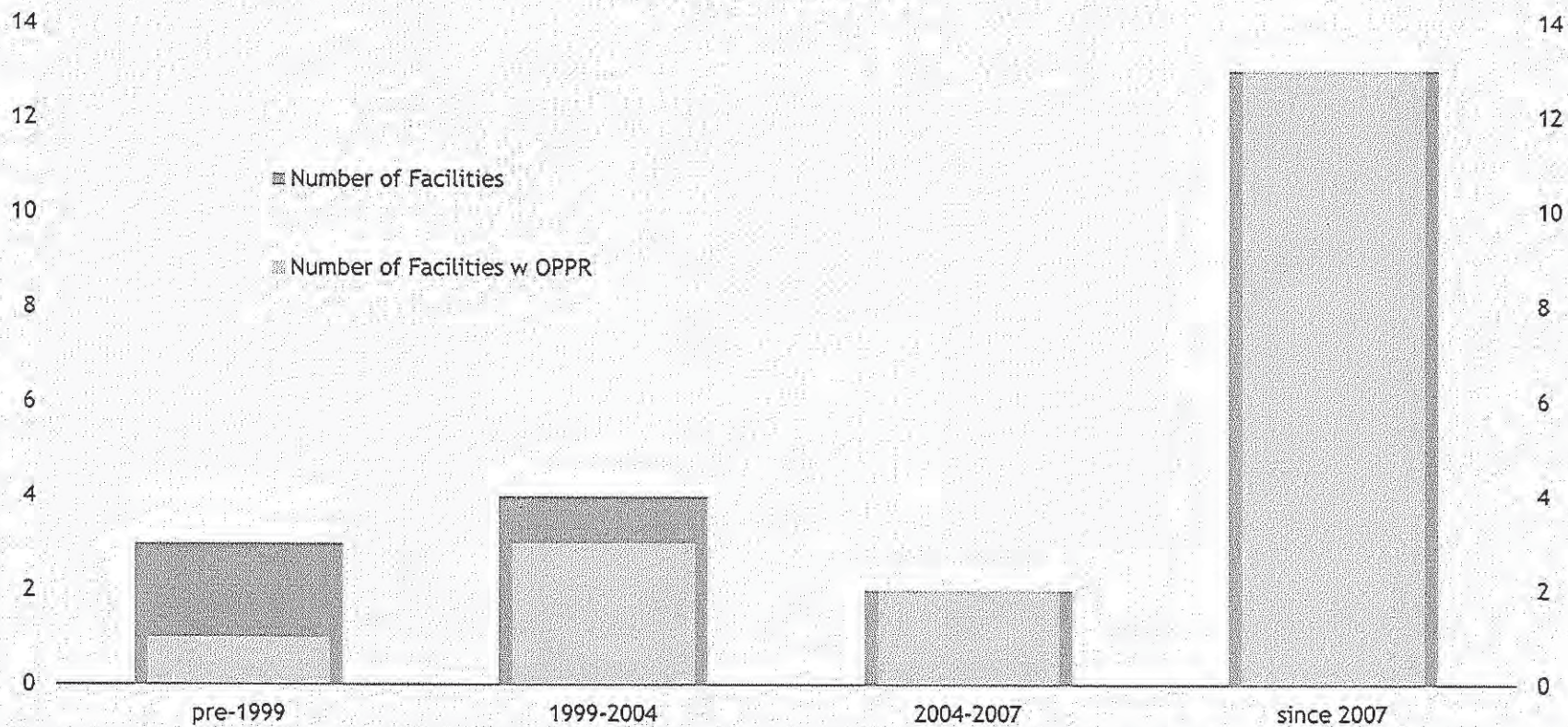


- **Provide clarity on:**
 - Hydrometric monitoring procedures
 - Ramping rate compliance monitoring protocol
 - Monitoring maximum licensed diversion
 - Agency communication following non-compliance
 - Mitigation and notification for remote facilities
 - Timing of maintenance operations

Regulatory Setting Update



Proportion of Facilities on the South Coast with Commitments
as of March 2012



Note: Within OPPR, facilities may selectively commit to monitoring, mitigating, and reporting.

Status of OPPRs



Current status of OPPRs at 22 IPP facilities on the South Coast

Satisfied	Agency review provided & no proponent response	Agency review and Order required	Absent
Ashlu	Fire	L. Mamquam	Soo
Fitzsimmons	Stokke	Rutherford	Sechelt
Furry	Tipella	Tyson	Brandywine
U. Mamquam	Douglas	Miller	
	U. Stave	McNair	
	Lamont		
	E. Toba		
	Montrose		
	U. Clowhom		
	L. Clowhom		

Recommendations



- Ensure awareness of 'commissioning' expectations
- Compel owners to update OPPRs
- Clarify agency expectations with OPPR template
- Release flow ramping guidelines
- Improve coordination with Water Allocation
- Finalize CEP database for incident tracking
- Establish OPP compliance monitoring program

Questions/Comments?



- **Acknowledgements**

- Ecosystems Section (S. Babakaiff, E. Stoddard)
- Water Allocation Section (K. Johnson, A. Ullah, J. Davies)
- Administrative Support Services (J. Becker, D. Ha)

Spiteri, Bailey EAO:EX

From: Carr, Michelle EAO:EX
Sent: Monday, October 1, 2012 11:03 PM
To: Hicks, Tim D EAO:EX; Coccola, Carley ENV:EX; Murphy, Brian EAO:EX
Cc: Coccola, Carley ENV:EX
Subject: mc comments FW: For review: Water Power Compliance_Issue Summary and Action Plan_28Sept2012_comments
Attachments: Water Power Compliance_Issue Summary and Action Plan_28Sept2012_comments.docx

Hi,

I've reviewed and I really like the changes I see in the first table. I'm not sure how the two tables link together and have made some comments in track changes. I know you met this afternoon so only provided some high level comments. Looking forward to seeing next steps.

Also, in my meeting with Colleen from Clean Energy BC she raised the issue that there are situations of fluctuations/non-compliance, but often this not critically important from an environmental risk perspective. Just wondering if we need to do some analysis to see if we are setting the right conditions to begin with (Ted Down's key point).

Thanks,
Michelle

From: Hicks, Tim D EAO:EX
Sent: Fri, September 28, 2012 10:36 AM
To: Carr, Michelle EAO:EX; Murphy, Brian EAO:EX
Cc: Coccola, Carley EAO:EX
Subject: For review: Water Power Compliance_Issue Summary and Action Plan_28Sept2012_comments

Hi Michelle and Brian,

The next iteration of the water power issue summary and action plan is attached. Thanks for your comments Brian.

The action plan (now at the top of the document) is closer to a final draft stage than the meeting summary. Please see attached.

I suggest we focus on getting the action plan table to a draft stage that we're all happy with. What is your availability to review and refine this with me?

Tim

Tim D. Hicks
Manager of Policy and Project Assessment
Environmental Assessment Office
office: 250.387.6758 | cell: 250.882.1473 | fax: 250.356.7440

Workshop on Compliance Management for Water Power Projects
July 5, 2012

DRAFT Action Plan – September 2012

Issue	Action	Estimated Timeline (refine timelines with workshop participants)	Lead
Compliance verification	• Focus EA Certificate inspections on run of river projects	Underway	EAO, FLNRO
	• Develop strategy for proactive verification of compliance with ramping/instream flow requirements	Medium term	FLNRO?
	• Develop strategy for increasing government capacity to review and respond to independent monitoring reports	Medium term	All
Compliance planning and promotion	• EAC conditions for new projects: require adaptive management programs for developing instream flow requirements and ramping rates for run of river projects	Short term	EAO, FLNRO
Coordination	• Circulate draft action plan to workshop participants	October 2012	EAO
	• <u>Strike a committee with respective agency representatives to coordinate this project and be accountable to deliverables of key agencies.</u>	November 2012	EAO, FLNRO
	• Collaborate with other government agencies on compliance management	Initiated, deepen collaboration	EAO

s.13

s.13

	plans for EA projects (including through MOE/EAO Corporate LEAN project)	by December 2012	
	• Report on actions, and lessons learned	Annual	
Inconsistent Tools and Templates	• Develop templates for operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), and construction environmental management plans (CEMPs)	Medium term	FLNRO
Risk Management	• Develop a staff training plan on assessing and managing risks	Long term	
Staff Capacity	• Generate a request for proposals (RFP) to compile a list of qualified professionals (QPs) to help manage workload	Short term	

Comment [m3]: What type of risks

Summary of Issues and Potential Solutions

Comment [m4]: Not sure how these two tables link

Issue	Solution	Estimated Timeline	Agency	Lead
Insufficient Coordination	<ul style="list-style-type: none"> Consistency between EAC conditions and conditions in subsequent permits Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i> Provincially statutory initiatives <i>E.g. Water Act Modernization</i> 	Short term	C&E Branch, DFO, EAO, FLNRO, MEM	EAO/FLNRO
		Long term		

Comment [b5]: I assume by March 31, 2013? Does this item not tie into the first item under one process below?

	<ul style="list-style-type: none">Inconsistent use of guidance, policy and procedures	<ul style="list-style-type: none">Consistent communication and regional use of policy, guidance and procedures	Long term	EAO & FLNRO	EAO/ FLNRO (template development)	Comment [b6]: What do we mean by long-term?
Oversight of Certified Projects (Monitoring, and Compliance and Enforcement)	<ul style="list-style-type: none">Lack of provincial consistency for monitoring and compliance activities	<ul style="list-style-type: none">Work with industry (e.g. Clean Energy BC) on issues and solutionsProvincial consistency for EA conditions that are subsequently addressed in operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs)Annual meeting for lessons learned, knowledge sharing, baseline data etc. (technical focus)	Short term	ALL (C&E Branch, DFO, EAO, FLNRO, MEM, IE, IEM)	Brian Murphy/ Heather MacKnight (FLNRO templates)	
			Short term (Template work to be completed by March 31, 2013)			
			Short term	ALL	ALL	Comment [tdh7]: Carley – was this indicated during the meeting?
	<ul style="list-style-type: none">Ensuring conditions are measurable and enforceable	<ul style="list-style-type: none">Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i>Independent compliance reviewers	Short term	ENV	EAO & MOE (LEAN)	
			Long term	ALL	FLNRO	Comment [b8]: Who are these? KPMG?
			Short term (Independent compliance review = During construction and after 2 years operating)			
	<ul style="list-style-type: none">Interagency C&E roles and responsibilities not clarified for all EA certificate conditions	<ul style="list-style-type: none">Compliance management plans (CMPs) → LEAN process	Short term			

	• Reports from Independent Environmental monitors (IEMs) not being followed up on consistently	• Identify process efficiencies for independent environmental monitor reporting and government follow-up (e.g., online database for independent environmental monitors to submit reports)	Long term	EAO, FLNRO (MOE, CVIS?)	EAO, MOE, & FLNRO (link into CVIS database?)
	• Timely Incident follow-up	• Communication with regions, communications strategy	Short term	C&E Branch, DFO, EAO, FLNRO, MEM	FLNRO
	• Limited staff capacity	• Roles and responsibilities	Long term		
	• Compliance verification	• BC Hydro/COS MOU regarding auditing (Follow up with COS)	222established	C&E Branch	Lance2COS
		• Inspect		All	All
Achieving "One Process"		• <u>Identify and establish inspection resources for different aspects of inspections (e.g. sediment and erosion control vs. ramping)</u>		All	All
	• Mechanisms to promote compliance	• Use of security deposits			
	• Determining roles and responsibilities to avoid duplicating processes	• Map out processes and define	Short term (underway)	ALL	Brian Murphy & Heather MacKnight
		• Staff knowledge base, training	Long term		To be determined
		• Qualified persons (QPs) to manage workload	Short term		QP: Brian Murphy to contact Garth Atkins → NR sector

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Comment [b10]: We have had a person from FLNRO working on this for Heather and I.

Comment [m11]: Not sure who should take the lead on this

s.13

	<ul style="list-style-type: none"> Lack of coordination Eliminate redundancies (different functions from prior restructuring) 	Short term	FLNRO	Brian Murphy & Heather MacKnight
Setting Clear and Enforceable Requirements	<ul style="list-style-type: none"> <u>Minimum instream river flows and ramping rates</u> ??? Determining what is required for EA vs. non-EA projects 	Short term	EAO, FLNRO, C&E Branch	EAO project managers, leads, experts
	<ul style="list-style-type: none"> Measurable and enforceable certificate conditions that are coordinated with permit requirements BC Hydro/COS MOU regarding auditing (Follow up with COS) Align with EA phases 	???	C&E Branch	Lance?
Reporting	<ul style="list-style-type: none"> Internal compliance reporting Limited capacity to deal with reports 	Long term	Consult with Nelson Grant	
	<ul style="list-style-type: none"> Need to increase transparency/accountability by reporting out to the public 	Long term	EAO	EAO to develop policy guidance for EA projects
Risk Management	<ul style="list-style-type: none"> Large number of projects entering the EA and permitting process 	Long term	ALL	EAO for EA projects (CMPs risk rank projects)
	<ul style="list-style-type: none"> Variation in approaches 	Long term		
Inconsistent Tools and Templates	<ul style="list-style-type: none"> Varying operational parameters and procedures (OPP), operational environmental management plans 	Short term (Template work to be completed by March 31,	FLNRO	Heather MacKnight

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Comment [b13]: Who is the lead?

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	(OEMPs)	2013)
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Spiteri, Bailey EAO:EX

From: Carr, Michelle EAO:EX
Sent: Wednesday, July 18, 2012 4:49 PM
To: Coccola, Carley ENV:EX
Cc: O'Connor, Lisa EAO:EX; Hicks, Tim D EAO:EX
Subject: RE: FOR REVIEW TODAY: Water Power Project Workshop Notes

Hi,

I've reviewed and overall it looks good. I've flagged a few issues (highlighted in yellow) that I need Tim to look at. Tim – I'm concerned there isn't a differentiation between EA and sub-threshold and don't want to be on the hook for things that aren't ours, but also don't want to change the intent of the discussion at the workshop. Can you please look and let me know what you think of my additions?

Then it is ready to go. I think it should be circulated to Brian/Heather and discussed with them before we send it to the group.

Thanks,
Michelle

From: Coccola, Carley EAO:EX
Sent: Wednesday, July 18, 2012 1:48 PM
To: Carr, Michelle EAO:EX
Cc: O'Connor, Lisa EAO:EX; Hicks, Tim D EAO:EX
Subject: RE: FOR REVIEW TODAY: Water Power Project Workshop Notes

Hi Michelle,

I have made the changes Tim requested to the Water Power Project Workshop meeting notes and updated the document on the I Drive [here](#) for your approval. Additionally, I have left hard copies with Lisa of the original notes with Tim's comments as well as the updated document.

I have amalgamated the original three documents into one and replaced the 'reporting back on the action plan section' with the draft action plan, and omitted the document with the typed out sticky notes (opting instead for the summary).

Once approved, these notes can be circulated to Brian and Heather prior to our follow-up workshop meeting next week and/or to the original workshop participants.

Please let me know should you have any questions or concerns regarding these notes.

Cheers,
Carley Coccola

From: O'Connor, Lisa EAO:EX
Sent: Tuesday, July 17, 2012 8:03 AM
To: Hicks, Tim D EAO:EX
Cc: Coccola, Carley EAO:EX; Carr, Michelle EAO:EX
Subject: FOR REVIEW TODAY: Water Power Project Workshop Notes
Importance: High

Hi Tim,

Michelle would like you to review these notes by end of day today. I have printed off copies and left them under your door.

Please let Carley know when you have done this, as she would like to send out to the participants of the Monday, June 23rd "Follow-up Meeting - Water Power Project Compliance Management Workshop" meeting.

Thanks,
Lisa O'Connor
Policy Administrative Assistant
Environmental Assessment Office
(250) 356-1151
Mailing address: PO Box 9426, Victoria, BC, V8W 9V1

 Please consider the environment before printing this email.

From: Coccola, Carley EAO:EX
Sent: Monday, July 9, 2012 4:13 PM
To: Carr, Michelle EAO:EX; Hicks, Tim D EAO:EX
Cc: Baan, Sandra M FLNR:EX; La Rose, Lisa FLNR:EX; O'Connor, Lisa EAO:EX
Subject: RE: Water Power Project Workshop Notes

Hi all,

In follow up to my email below, I have attached the notes from the workshop, draft action plan, as well as the sticky notes from the first break out session. As some of these materials could have been mixed up during the workshop clean up, please let me know if there is anything I am missing or have recorded incorrectly.

Note for **Tim** and **Michelle**: These materials are available on the I Drive in the [Water Power Project CM Workshop Folder](#).

Please let me know your thoughts and/or any questions or concerns you might have about the attached documents. Once approved, these documents can be circulated to workshop participants.

Cheers,
Carley Coccola

From: Coccola, Carley EAO:EX
Sent: Thursday, July 5, 2012 4:11 PM
To: Carr, Michelle EAO:EX; Hicks, Tim D EAO:EX
Cc: Baan, Sandra M FLNR:EX; La Rose, Lisa FLNR:EX
Subject: Water Power Project Workshop Notes

Hi Michelle and Tim,

The notes from today's Water Power Project workshop are now available on the I Drive [here](#) (Sandra & Lisa: These notes are also attached to this email for your reference). Please note, this document is still a work in progress and does not (yet) include the draft action plan. I will be finishing the draft action plan when I return to the office on Monday.

Thank you for helping the meeting to run so smoothly, and thanks again to Sandra and Lisa for facilitating! ☺

Please let me know your thoughts and/or any questions or concerns you might have about the attached document.

Cheers,

Carley Coccola | Policy and Legislative Advisor | Environmental Assessment Office
T 250.387-2446 | s.17 | F 250.387-6762 | Carley.Coccola@gov.bc.ca



Please consider the environment before printing this e-mail.

Spiteri, Bailey EAO:EX

Subject: UPDATED with BACKGROUND MATERIAL 8:30 Run-of-river Compliance Management Solutions Workshop (Agenda Attached)
Location: EAO 1st floor boardroom
Start: Thu 2012-07-05 8:30 AM
End: Thu 2012-07-05 12:00 PM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded
Organizer: Carr, Michelle EAO:EX
Required Attendees: MacKnight, Heather FLNR:EX; White, Nancy N FLNR:EX; Matthews, Simon FLNR:EX; Marquis, Paul J FLNR:EX; Barrett, Scott FLNR:EX; Babakaiff, Scott C FLNR:EX; Murphy, Brian EAO:EX; Bonnyman, Sue MEM:EX; Guy, Stewart E FLNR:EX; Edquist, Kevin FLNR:EX; Bertram, Kevin FLNR:EX; Sundquist, Lance ENV:EX; Ashcroft, Greg E EAO:EX; Carlson, Justin EAO:EX; Baan, Sandra M FLNR:EX; Coccola, Carley EAO:EX; Hicks, Tim D EAO:EX; La Rose, Lisa FLNR:EX; Down, Ted ENV:EX; 'Dave.Carter@DFO-MPO.gc.ca'; Haberl, Kevin J FLNR:EX; Simons, Matthew FLNR:EX
Optional Attendees: Cuell, James W FLNR:EX; Bui, Tuan FLNR:EX

Hi, all.

Please find attached background material for this meeting that was prepared to ensure a common understanding of the sector/issue. It would be appreciated if you could please review prior to the meeting.

Thanks,



Draft_Water
ower BN_June27.doc

Michelle



Agenda_Workshop
p July 5 2012.doc...

Due to an EAO Executive Meeting we have unfortunately needed to adjust the timing of the Run-of-river Compliance Management Solutions Workshop. Alternate dates were looked at, but due to peoples availability over the summer, we would have been looking at booking this meeting into the fall.

We will be providing Coffee/Tea and an early morning snack of pastries/muffins for this meeting.

Please accept our apologies for this scheduling change.

Meeting overview: The Environmental Assessment Office and the Clean Energy Initiatives Office of FLNRO are organizing a one day workshop focused on collaboratively identifying inter-agency compliance management solutions to prevent and address non-compliance issues on run-of-river hydroelectric projects.

Detailed Agenda to be sent at a later date. This holds the meeting in your calendar.

WATER POWER PROJECT COMPLIANCE MANAGEMENT WORKSHOP BACKGROUNDER

Workshop Information:
July 5th, 2012
8:30am – 12:00pm
EAO 1st Floor Boardroom

Context

Run-of-river hydroelectric projects, or water power projects, divert water flows through turbines to generate power. They provide a renewable, non-polluting source of energy, with relatively stable pricing due to the province's cost-based regulation of rates. Because these projects provide a cleaner way to generate energy than the burning of fossil fuels, the number of water power projects in the province has increased significantly over the past decade. However, despite being a "clean" energy source, water power projects can still significantly impact aquatic and terrestrial environments, as well as cultural and recreational values. To prevent or mitigate potential adverse effects, these projects undergo reviews before approval. The review process for a water power project is dependent upon the size of the project. Projects with a rated nameplate capacity of 50MW or greater are required to undergo an environmental assessment (EA) under the *Environmental Assessment Act*. Currently there are 9 EA certified projects in BC, and 43 operating sub-EA threshold water power projects. Additionally, another 17 water power projects are currently undergoing the EA process. Approximately 50% of these projects are active. The typical layout of a water power project is shown in Figure 1 below.

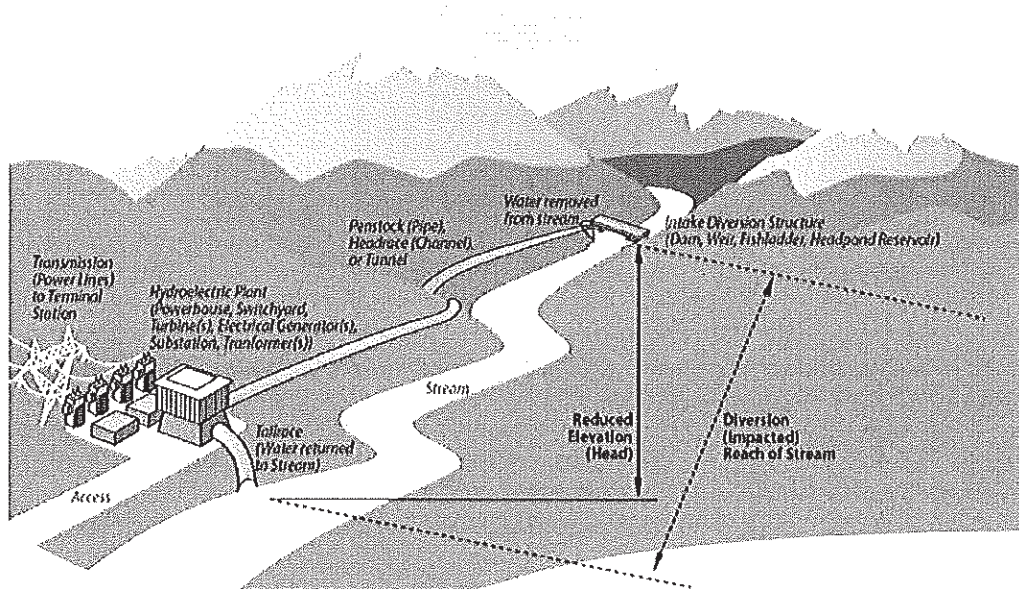


Figure 1: Drawing of a 'typical' run-of-river hydroelectric project (Ministry of Forests, Lands and Natural Resource Operations, 2011)

Potential Impacts

Some of the potential impacts from water power projects include:

Aquatic Environments	Terrestrial Environments
<ul style="list-style-type: none"> • Damage or loss of/to streamside (riparian) vegetation • Dams can inhibit movement of fish and organic materials downstream • Fish impingement (when fish are pinned against the penstock intake) and entrainment (when fish 	<ul style="list-style-type: none"> • Habitat fragmentation due to roads and transmission lines • Impacts to wildlife due to increased noise and human activity • Introduction of invasive species • Loss of recreational opportunities for kayakers,

<ul style="list-style-type: none"> are drawn into the penstock) • Reduced flows causing decreased water velocity and depth, which can lead to fluctuating water temperatures and fish mortality 	<ul style="list-style-type: none"> fishermen etc. • Erosion of materials into waterways during construction
---	---

These impacts are usually prevented or mitigated through review processes that result in legally binding conditions – such as EA certificate and permit conditions – that projects must adhere to. Instances of non-compliance on run of river hydroelectric projects can lead to unexpected, and sometimes significant, adverse effects to environmental, social, health, heritage and economic values. Recently, two water power projects near Squamish, BC caused fish mortality when fluctuating water levels from inconsistent water diversion rates left fish stranded. A study conducted by the Ministry of Forests, Lands, and Natural Resource Operations (FLNRO) in 2010 noted ramping non-compliance issues on water power projects in the South Coast region were common. The study made a number of recommendations to address non-compliance which include improved coordination across government, the establishment of a monitoring program, and the clarification of agency roles.

Implications

In addition to resulting in adverse effects, instances of non-compliance can reflect negatively on the BC environmental assessment process and authorization review processes. Given the range of impacts that can result from non-compliance, promoting and maintaining compliance is critical. A comprehensive and coordinated multi-agency compliance management strategy for water power projects can effectively ensure compliance by using an appropriate set of compliance management tools, such as measurable and enforceable requirements, professional reliance, government inspections, and enforcement.

To promote addressing issues of non-compliance on EA projects, the BC EAO has created a comprehensive monitoring, compliance and enforcement program. The success of this program relies heavily on interagency coordination across government to determine best practices, better clarify roles and responsibilities, and to avoid the duplication of efforts. The July 5th workshop on Water Power Project Compliance Management provides another venue for cross government involvement and collaboration specifically relating to water power projects.

Coordinated compliance management programs provide assurance to the public that projects are meeting legal requirements and therefore preventing or reducing adverse effects as anticipated.

Water Power Project Compliance Management Workshop

The objective of this session is to build a common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues.

This workshop will initiate work on a strategy to coordinate multi-agency compliance management efforts in ways that fill compliance management gaps while at the same time avoid duplication. The session will begin with an overview and discussion of non-compliance issues, current solutions, gaps in compliance oversight and then lead into a collaborative identification of solutions. The front and back ends of compliance management will be discussed, and both technical and process solutions will be examined.

Contact:

Name: Michelle Carr
Title: Executive Director of Strategy and Quality Assurance
Phone: (250) 387-6748

Name: Brian Murphy
Title: Executive Project Director
Phone: (250) 387-2402

Prepared by:

Name: Carley Coccola
Title: Policy and Legislative Advisor
Phone: (250) 387-2446

Water Power Projects Compliance Workshop

July 5, 2012

8:30am – 12:00pm

1st Floor Boardroom - Environmental Assessment Office, Victoria

Session Objective: A common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues

Time	Agenda Item	Presenter	Duration
8:30	Welcome and introductions (Coffee, tea and muffins provided) Overview of the day: <ul style="list-style-type: none"> Meeting objectives Review of the agenda 	Michelle Carr Sandra Baan & Lisa La Rose (Facilitators)	5 mins 10 mins
8:45	EAO Overview <ul style="list-style-type: none"> Scope of the issue Q's and A's 	Tim Hicks	10 mins
8:55	Water Power Projects & Fish <ul style="list-style-type: none"> What is flow ramping? Compliance case study Q's and A's 	Scott Babakaiff	20 mins
9:15	Brainstorm of Key Issues to Develop a Common Understanding <ul style="list-style-type: none"> Current compliance management approaches and gaps in terms of types of non-compliance Compliance management approaches to prevent/resolve the gaps identified 	All (sticky note exercise)	50 mins
10:05	Coffee Break (Coffee and tea provided)		10 mins
10:15	Recap of Morning and Overview of Next Activity	Sandra Baan & Lisa La Rose	10 mins
10:25	Action Plan Development and Recommendations – Concurrent Sessions on the Front and Back End of Compliance Group action 1 – Technical solutions (<i>e.g., setting requirements, expertise needed</i>) Group action 2 – Process solutions (<i>e.g., government coordination</i>)	All	40 mins
11:05	Report Back to Broader Group <ul style="list-style-type: none"> Group discussion on action plan and key recommendations 	Point person from each group	40 mins
11:45	Next Steps and Roundtable Discussion on Any Outstanding Issues Needing Attention	Tim Hicks/All	15 mins



Spiteri, Bailey EAO:EX

From: Carr, Michelle EAO:EX
Sent: Friday, June 29, 2012 12:15 PM
To: Bonnyman, Sue MEM:EX
Cc: Davidson, Glen W FLNR:EX; O'Connor, Lisa EAO:EX; Cocco, Carley ENV:EX
Subject: RE: 8:30 Run-of-river Compliance Management Solutions Workshop (Agenda Attached)

Thanks very much, Sue.

Glen, it would be great if someone from your team could participate in an upcoming workshop EAO is hosting. Please let me know if you have any questions about this.

Thanks
Michelle



Agenda_Worksho
p July 5 2012.do...

From: Bonnyman, Sue MEM:EX
Sent: Friday, June 29, 2012 11:44 AM
To: Carr, Michelle EAO:EX
Cc: Davidson, Glen W FLNR:EX
Subject: RE: 8:30 Run-of-river Compliance Management Solutions Workshop (Agenda Attached)

Micelle – it appears you have missed inviting Water Management. As this is the key group advising the Water Controller, it would seem prudent they be included in anything which may ultimately lead to changes in anyone's water license.

Sue Bonnyman

-----Original Appointment-----

From: Carr, Michelle EAO:EX
Sent: Tuesday, June 12, 2012 2:59 PM
To: Carr, Michelle EAO:EX; MacKnight, Heather FLNR:EX; White, Nancy N FLNR:EX; Matthews, Simon FLNR:EX; Marquis, Paul J FLNR:EX; Barrett, Scott FLNR:EX; Babakaiff, Scott C FLNR:EX; Murphy, Brian EAO:EX; Bonnyman, Sue MEM:EX; Guy, Stewart E FLNR:EX; Edquist, Kevin FLNR:EX; Bertram, Kevin FLNR:EX; Sundquist, Lance ENV:EX; Ashcroft, Greg EAO:EX; Carlson, Justin EAO:EX; Baan, Sandra M FLNR:EX; Cocco, Carley EAO:EX; Hicks, Tim D EAO:EX; La Rose, Lisa FLNR:EX; Down, Ted ENV:EX; 'Dave.Carter@DFO-MPO.gc.ca'; Haberl, Kevin J FLNR:EX; Simons, Matthew FLNR:EX; 'carterda@pac.dfo-mpo.gc.ca'
Cc: Cuell, James W FLNR:EX
Subject: 8:30 Run-of-river Compliance Management Solutions Workshop (Agenda Attached)
When: Thursday, July 5, 2012 8:30 AM-12:00 PM (GMT-08:00) Pacific Time (US & Canada).
Where: EAO 1st floor boardroom

When: Thursday, July 5, 2012 8:30 AM-12:00 PM (GMT-08:00) Pacific Time (US & Canada).

Where: EAO 1st floor boardroom

Note: The GMT offset above does not reflect daylight saving time adjustments.

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<< File: Agenda_Workshop July 5 2012.docx >>

Good Afternoon,

Due to an EAO Executive Meeting we have unfortunately needed to adjust the timing of the Run-of-river Compliance Management Solutions Workshop. Alternate dates were looked at, but due to peoples availability over the summer, we would have been looking at booking this meeting into the fall.

We will be providing Coffee/Tea and an early morning snack of pastries/muffins for this meeting.

Please accept our apologies for this scheduling change.

Meeting overview: The Environmental Assessment Office and the Clean Energy Initiatives Office of FLNRO are organizing a one day workshop focused on collaboratively identifying inter-agency compliance management solutions to prevent and address non-compliance issues on run-of-river hydroelectric projects.

Detailed Agenda to be sent at a later date. This holds the meeting in your calendar.

Water Power Projects Compliance Workshop

July 5, 2012
8:30am – 12:00pm

1st Floor Boardroom - Environmental Assessment Office, Victoria

Session Objective: A common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues

Time	Agenda Item	Presenter	Duration
8:30	Welcome and introductions (Coffee, tea and muffins provided)	Michelle Carr	5 mins
	Overview of the day: <ul style="list-style-type: none"> • Meeting objectives • Review of the agenda 	Sandra Baan & Lisa La Rose (Facilitators)	10 mins
8:45	EAO Overview <ul style="list-style-type: none"> • Scope of the issue • Q's and A's 	Tim Hicks	10 mins
8:55	Water Power Projects & Fish <ul style="list-style-type: none"> • What is flow ramping? • Compliance case study • Q's and A's 	Scott Babakaiff	20 mins
9:15	Brainstorm of Key Issues to Develop a Common Understanding <ul style="list-style-type: none"> • Current compliance management approaches and gaps in terms of types of non-compliance • Compliance management approaches to prevent/resolve the gaps identified 	All (sticky note exercise)	50 mins
10:05	Coffee Break (Coffee and tea provided)		10 mins
10:15	Recap of Morning and Overview of Next Activity	Sandra Baan & Lisa La Rose	10 mins
10:25	Action Plan Development and Recommendations – Concurrent Sessions on the Front and Back End of Compliance Group action 1 – Technical solutions (<i>e.g., setting requirements, expertise needed</i>) Group action 2 – Process solutions (<i>e.g., government coordination</i>)	All	40 mins
11:05	Report Back to Broader Group <ul style="list-style-type: none"> • Group discussion on action plan and key recommendations 	Point person from each group	40 mins
11:45	Next Steps and Roundtable Discussion on Any Outstanding Issues Needing Attention	Tim Hicks/All	15 mins



Spiteri, Bailey EAO:EX

From: Coccoła, Carley ENV:EX
Sent: Friday, June 15, 2012 1:34 PM
To: Carr, Michelle EAO:EX; Hicks, Tim D EAO:EX
Cc: O'Connor, Lisa EAO:EX
Subject: Updated Workshop Agenda
Attachments: Workshop July 5 2012.docx

Hi Michelle and Tim,

Attached to this email is the updated agenda for the July 5th workshop on compliance management for water projects.

I have formatted the agenda so it now fits on one page and should have all the information we discussed this morning. I did remove the title after Scott's name since I figured we should be consistent and either list all presenter titles or none at all.

Please let me know your thoughts. If you are both okay with the updated agenda I will send it along to Sandra and Lisa.

Cheers,

Carley Coccoła | Policy and Legislative Advisor | Environmental Assessment Office
T 250.387-2446 | s.17 | F 250.387-6762 | Carley.Coccoła@gov.bc.ca



Please consider the environment before printing this e-mail or its attachment(s).

**Water Power Projects
Compliance Workshop
July 5, 2012
10:00 am – 3:00pm**

1st Floor Boardroom - Environmental Assessment Office, Victoria

Session Objective: A common understanding of compliance issues relating to water power projects and a concrete action plan with recommendations for dealing with the issues

Time	Agenda Item	Presenter	Duration
10:00	Welcome (Coffee and tea provided) Introductions: <ul style="list-style-type: none"> • Meeting objectives • Review of the agenda 	Michelle Carr Sandra Baan (Facilitator)	15 mins
10:15	EAO Overview <ul style="list-style-type: none"> • Scope of the issue • Q's and A's 	Tim Hicks	15 mins
10:30	Water Power Projects & Fish <ul style="list-style-type: none"> • What is flow ramping? • Compliance case study • Q's and A's 	Scott Babakaiff	30 mins
11:00	Brainstorm of Key Issues to Develop a Common Understanding <ul style="list-style-type: none"> • Current compliance management approaches and gaps in terms of types of non-compliance • Compliance management approaches to prevent/resolve the gaps identified 	All (sticky note exercise)	1 hour
12:00	Lunch (Provided)		45 mins
12:45	Recap of Morning and Overview of Afternoon	Sandra Baan	15 mins
1:00	Action Plan Development and Recommendations – Concurrent Sessions on the Front and Back End of Compliance Group action 1 – Technical solutions (<i>e.g., setting requirements, expertise needed</i>) Group action 2 – Process solutions (<i>e.g., government coordination</i>)	All	1 hour
2:00	Report Back to Broader Group <ul style="list-style-type: none"> • Group discussion on action plan and key recommendations 	Point person from each group	30 mins
2:30	What We Heard <ul style="list-style-type: none"> • Perspectives from MFLNRO, MEM, EAO 	Heather MacKnight Sue Bonnyman Michelle Carr	15 mins
2:45	Next Steps	Tim Hicks	15 mins



Spiteri, Bailey EAO:EX

From: Pizarro, Kirsten EAO:EX
Sent: Thursday, October 31, 2013 2:44 PM
To: Cousins, Autumn EAO:EX
Subject: FW: Water power projects - Security/ Performance Bond for compliance

-----Original Message-----

From: Coccola, Carley EAO:EX
Sent: Thursday, March 28, 2013 4:01 PM
To: Scraba, Erin H EAO:EX
Cc: Pizarro, Kirsten EAO:EX
Subject: FW: Water power projects - Security/ Performance Bond for compliance

Another piece from the Water Power Project workshop that I don't think moved from here.

Passing along for info/filing etc.

Cheers,
Carley Coccola

-----Original Message-----

From: Carr, Michelle EAO:EX
Sent: Saturday, September 29, 2012 11:16 AM
To: Hicks, Tim D EAO:EX
Cc: Coccola, Carley EAO:EX; Murphy, Brian EAO:EX
Subject: FW: Water power projects - Security/ Performance Bond for compliance

Hi, Tim, Please let me know if any action has been undertaken with this, and if not, your suggestions for next steps. Thanks, Michelle _____

From: Baan, Sandra M FLNR:EX
Sent: Tuesday, July 10, 2012 9:54 AM
To: Carr, Michelle EAO:EX; Hicks, Tim D EAO:EX
Cc: MacKnight, Heather FLNR:EX; Mana, Myles FLNR:EX
Subject: Water power projects - Security/ Performance Bond for compliance

Hi Michelle, Tim,
Just letting you know that I have continued to explore this idea, and talked this morning with Doug MacLeod from Policy.

If at some point you would like to discuss this further and hear what I am learning and what my next steps are, let me know and we can arrange a call.

Briefly:

Presently - we incur cost prior to using Security Potential future - without first incurring cost we are able to use security

Surety bonds, or insurance - proponent puts up a performance based bond, this could be expanded to require security (cash or other if proponent has it) otherwise insurance based

Tenure document

Presently and going forward - we tie the Tenure document and offer to the Management Plan or Development Plan. (we can ask that the Management Plan/Development Plan include compliance if it doesn't at this time)

There is language to cover off many items in the Covenants portion of the tenure document to reflect

- 1) All applicable laws, bylaws, orders, directions, ordinances and regulations of any government authority.....
- 2) Not commit any wilful or voluntary waste, spoil or destruction on the Lands

s.13, s.14, s.17

I will keep moving forward on this and update you soon, unless I hear from you that you do not wish to pursue this further at this time.

Sandra

Sandra Baan
Major Projects Specialist
West Coast Region
Ministry of Forests, Lands and Natural Resource Operations
Phone: 250 751-7301

Spiteri, Bailey EAO:EX

From: Cousins, Autumn EAO:EX
Sent: Thursday, November 7, 2013 11:02 PM
To: Cousins, Autumn EAO:EX
Subject: FW: Follow up: Water Power Compliance Action Plan

Autumn Cousins
Manager, Policy and Compliance
Environmental Assessment Office
cell: 250.888.2020

From: Pizarro, Kirsten EAO:EX
Sent: Thursday, October 31, 2013 2:44 PM
To: Cousins, Autumn EAO:EX
Subject: FW: Follow up: Water Power Compliance Action Plan

From: Coccola, Carley EAO:EX
Sent: Thursday, March 28, 2013 3:38 PM
To: Scraba, Erin H EAO:EX
Cc: Pizarro, Kirsten EAO:EX
Subject: FW: Follow up: Water Power Compliance Action Plan

FYI. Last record of correspondence on this that I have.

Carley Coccola

From: Carr, Michelle EAO:EX
Sent: Tuesday, October 30, 2012 2:43 PM
To: Hartley, Brenda FLNR:EX; MacKnight, Heather FLNR:EX
Cc: Coccola, Carley EAO:EX; Murphy, Brian EAO:EX; Pizarro, Kirsten EAO:EX; O'Connor, Lisa EAO:EX
Subject: Follow up: Water Power Compliance Action Plan



Water Power
ompliance Action

Hi, Heather and Brenda.

At long last, please find attached a proposed action plan coming out of the water power meeting we held in July of this year.

My apologies for not sending this out sooner, following the discussions that Brian, Heather, Carley and I had in the summer. I had wanted to ensure the action plan had solid, concrete deliverables, and with shifting priorities and staffing resources at EAO, it has taken me a bit to feel comfortable with the content.

Also attached is a document that rolls up the range of issues raised at the meeting. You will see that many of the items are not flagged as action items in the action plan. This is to ensure we have the capability of delivering on the items identified.

As per a discussion with Brenda the other day, I understand that Brenda is now the key contact for clean energy at FLNRO. Heather, I would like to sincerely thank you for your support on this file. It has been much appreciated. Please let us know whether/how you would like to be involved in this going forward.

May I suggest that we have a short meeting to bring Brenda up to speed and confirm if she is comfortable sending the action plan out to the participants?

Thanks,
Michelle



Summary of
Issues and Potentia

Workshop on Compliance Management for Water Power Projects
July 5, 2012

DRAFT Action Plan – September 2012

Issue	Action	Estimated Timeline (refine timelines with workshop participants)	Lead
Compliance verification	<ul style="list-style-type: none"> Focus EA Certificate inspections on run of river projects 	Underway	EAO, FLNRO
	<ul style="list-style-type: none"> Develop strategy for proactive verification of compliance with ramping/instream flow requirements 	March 2013	FLNRO
	<ul style="list-style-type: none"> Develop strategy for increasing government capacity to review and respond to independent monitoring reports OR alternate monitoring models that are less staff intensive, such as IT solutions 	March 2013	FLNRO
Compliance planning and promotion	<ul style="list-style-type: none"> EAC conditions for new projects: require adaptive management programs for developing instream flow requirements and ramping rates for run of river projects 	December 2012	EAO
	<ul style="list-style-type: none"> Use of security deposits 	March 2013	FLNRO, building on research already done by Sandra B
Inconsistent Tools and Templates	<ul style="list-style-type: none"> Develop templates for operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), and construction environmental management 	March 2013	FLNRO

	plans (CEMPs)		
	<ul style="list-style-type: none"> • Work with industry (e.g. Clean Energy BC) to identify issues and solutions 	March 2013	All FLNRO, and EAO (through the Clean Energy Client Advisory Committee)
Coordination	<ul style="list-style-type: none"> • Circulate draft action plan to workshop participants 	October 2012	EAO
	<ul style="list-style-type: none"> • Organize a meeting to discuss the action plan and determine further steps to track deliverables of respective agencies. 	November 2012	EAO to organize initial meeting; all to participate
	<ul style="list-style-type: none"> • Collaborate with other government agencies on compliance management plans for EA projects (including through MOE/EAO Corporate LEAN project) 	Initiated, deepen collaboration by December 2012	EAO
	<ul style="list-style-type: none"> • Report on actions, and lessons learned 	prior to end of March, 2013	EAO and FLNRO

Summary of Issues and Potential Solutions

Issue		Solution	Estimated Timeline	Agency	Lead
Insufficient Coordination	<ul style="list-style-type: none">Consistency between EAC conditions and conditions in subsequent permits	<ul style="list-style-type: none">Draft processes involving regional contacts for review <i>E.g. McLymont with Nancy White</i>Provincially statutory initiatives <i>E.g. Water Act Modernization</i>	December 2012	C&E Branch, DFO, EAO, FLNRO, MEM	EAO/FLNRO
	<ul style="list-style-type: none">Inconsistent use of guidance, policy and procedures	<ul style="list-style-type: none">Consistent communication and regional use of policy, guidance and procedures	Fiscal 2013	EAO & FLNRO	EAO/FLNRO (template development)
Oversight of Certified Projects (Monitoring, Compliance and Enforcement)	<ul style="list-style-type: none">Lack of provincial consistency for monitoring and compliance activities	<ul style="list-style-type: none">Work with industry (e.g. Clean Energy BC) on issues and solutions	December 2012	ALL (C&E Branch, DFO, EAO, FLNRO, MEM, IE, IEM)	Brian Murphy/ Heather MacKnight (FLNRO templates)
		<ul style="list-style-type: none">Provincial consistency for EA conditions that are subsequently addressed in operational parameters and procedures reports (OPPRs), operational environmental management plans (OEMPs), construction environmental management plans (CEMPs)	Template work to be completed by March 31, 2013		
		<ul style="list-style-type: none">Annual meeting for lessons learned, knowledge sharing, baseline data etc. (technical focus)	Annual	ALL	ALL
	<ul style="list-style-type: none">Ensuring conditions are measurable and enforceable	<ul style="list-style-type: none">Promoting compliance through incentives <i>E.g. Compliance/public reporting, allow projects to operate fully once compliance is demonstrated</i>Independent compliance reviewers (Qualified professionals)	December 2012	ENV	EAO & MOE (LEAN)
				ALL	FLNRO
			Short term (Independent compliance review = During construction and after 2		

Achieving "One Process"			years operating)		
	• Interagency C&E roles and responsibilities not clarified for all EA certificate conditions	• Compliance management plans (CMPs) → LEAN process	December 2012		
	• Reports from Independent Environmental monitors (IEMs) not being followed up on consistently	• Identify process efficiencies for independent environmental monitor reporting and government follow-up (e.g., online database for independent environmental monitors to submit reports)	December 2012	EAO, FLNRO (MOE, CVIS?)	EAO, MOE, & FLNRO (link into CVIS database?)
	• Timely Incident follow-up	• Communication with regions, communications strategy	December 2012	C&E Branch, DFO, EAO, FLNRO, MEM	FLNRO
	• Limited staff capacity	• Roles and responsibilities	Fiscal 2013		
	• Compliance verification	• BC Hydro/COS MOU regarding auditing (Follow up with COS)	Established	C&E Branch	COS
		• Inspect		All	All
		• Identify and establish inspection resources for different aspects of inspections (e.g. sediment and erosion control vs. ramping)		All	All
	• Mechanisms to promote compliance	• Use of security deposits	March 2013	FLNRO	Sandra Baan
	• Determining roles and responsibilities to avoid duplicating processes	• Map out processes and define	December 2012 (underway)	ALL	FLNRO

	<ul style="list-style-type: none"> • Staff knowledge base, training • Qualified persons (QPs) to manage workload 	<ul style="list-style-type: none"> • Eliminate redundancies (different functions from prior restructuring) 	Fiscal 2013 December 2012 December 2012	To be determined QP: Brian Murphy to contact Garth Atkins → NR sector FLNRO	Brian Murphy & Heather MacKnight
Setting Clear and Enforceable Requirements	<ul style="list-style-type: none"> • Minimum instream river flows and ramping rates 	<ul style="list-style-type: none"> • Measurable and enforceable certificate conditions that are coordinated with permit requirements • BC Hydro/COS MOU regarding auditing (Follow up with COS) 	December 2012	EAO, FLNRO, C&E Branch	EAO
Reporting	<ul style="list-style-type: none"> • Internal compliance reporting • Limited capacity to deal with reports 	<ul style="list-style-type: none"> • Online submission of independent environmental monitors and environmental monitor reports → Pre-screening to flag issues in advance <i>E.g. Fish and Wildlife Bureau</i> • Consolidating, permitting Re: compliance audit process vs. inspection? 	Fiscal 2013	Consult with Nelson Grant <i>E.g. Interactive Digital Media (Ministry of Finance)</i>	
	<ul style="list-style-type: none"> • Need to increase transparency/accountability by reporting out to the public 	<ul style="list-style-type: none"> • Develop an overall plan for reporting → Determine the timing and level of detail 	Fiscal 2013	EAO	EAO to develop policy guidance for EA projects
Risk Management	<ul style="list-style-type: none"> • Large number of projects entering the EA and permitting process 	<ul style="list-style-type: none"> • Risk management training • Risk ranking framework 	Fiscal 2013	ALL	EAO for EA projects (CMPs risk rank projects)

Comment [c1]: We already have this captured in the "Oversight of Certified Projects" section next to compliance verification. (See highlighted section)

	<ul style="list-style-type: none"> • Variation in approaches • Use of templates to increase consistency 	Fiscal 2013		
Inconsistent Tools and Templates	<ul style="list-style-type: none"> • Varying operational parameters and procedures (OPP), operational environmental management plans (OEMPs) • OPPR, CEMP, OEMP templates • Consistency in documents 	Template work to be completed by March 31, 2013	FLNRO	Heather MacKnight