Managing a hydropower organization under ISO 55’001
A year one feed-back
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Alpiq at a glance

- Active in more than 20 European countries
- Around 8,300 employees (Energy Services: 6,900)
- Revenue: CHF 8,058 million
- Installed capacity: approximately 6,400 MW
- Generation: approximately 16,300 GWh (roughly 70 % in Switzerland)
- Supplies one third of Switzerland with electricity
- Holding Company headquarters in Lausanne
Managing Hydropower since 1910

Ruppoldingen (machines room) 1917
Gösgen (Construction) 1917
Martigny-Bourg & Fully (machines room) 1922

Ruppoldingen 2013
Gösgen 2013
Martigny-Bourg 2013
Peculiarities of Swiss Hydro

- Swiss Large Hydro Power plants are mostly Partnerships of Public (Mostly) and Private Partners,
- The owner is the Board of the Partnership Company,
- Alpiq provides Asset Management and/or Energy Management services for most of the partnerships in which it holds shares.
Main economical drivers for change

- Decrease of Electricity prices
- Impact of Direct and Indirect taxes on HPP Cost prices
- Impact of past investments in euphoria periods

Power prices evolution
(Source: EPEX Spot, EEX)

* EEX forwards 03.09.2015
For 2015: actuals until 30.09.2015 and forwards onwards
Main organizational drivers for change

- Internal diversity of asset management culture and structure
  - Stakeholders management,
  - Investment and decisions (Risk Awareness)
- Clustering of best practices
- Asset Management knowledge loss risk.
Alpiq’s Gap Analysis

- Best practices exist but are diversely interpreted,
- Various good planning tools but no “holistic” or integrated approach,
- Insufficient performance measurement,
- Insufficient quantified objectives,
Alpiq’s ISO 55’000 implementation (1)

Step 1: Get Help, choose it well and work closely with your consultant:

Step 2: Involve (not submerge) co-workers and management (mix and match)

Step 3: Translate standard in your “industry’s terms”

Step 4: Rethink and describe processes, write the manuals (with some of the people who have and will implement them)

Step 5: Implement on a pilot HPP first

Step 5: Internal Audits (Be a doctor not a inquisitor)

Step 6: External Audits (If he’s hard on you he’s doing you a favour)
Alpiq’s ISO 55’001 implementation (2)

Lessons learned from the implementation project:

1. ISO 55’001 and Hydropower Asset Management: YES!
2. It’s an opportunity to rethink your whole processes and get better,
3. Project sponsorship is essential => the management policy,
4. First operational and organizational improvements appear quickly from:
   1. Better context awareness,
   2. Better knowledge and information sharing,
   3. Better performance metrics
5. First operational
First results:

Triggering Enablers

Year 1 organizational improvements:

1. Better context awareness leading to better contingency mitigation,
2. Clustering of AM activities is dramatically reduced,

Year 1 operational improvements:

1. Implementation of decision analysis tools (Risk Based Maintenance),
2. Better proportionality decision analysis investment vs maintenance/replacement investment
3. Better performance metrics,
4. Personnel has a better understanding of objectives and constraints thus a better understanding of the Strategy.
Expected future results:

Expanding, Improving, Consolidating

Year 2 to 5 expected organizational improvements:

1. Fill in the gaps of the competency and capability matrixes,
2. Develop Asset Information Systems,
3. Widely understood Value Functions and Value drivers of various HPP.

Year 2 to 5 expected operational improvements:

1. Largely adopted reliability engineering,
2. Largely adopted Life Cycle Costing Attitude,
3. Largely adopted Risk Based Decisions,
Thank you

... For your attention.

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