

Crisis management in sanitation utilities: SIAAP example

Christian ROCHE
SIAAP DSE MRI
Wsmart 4 Sept 2015



Crisis management in SIAAP



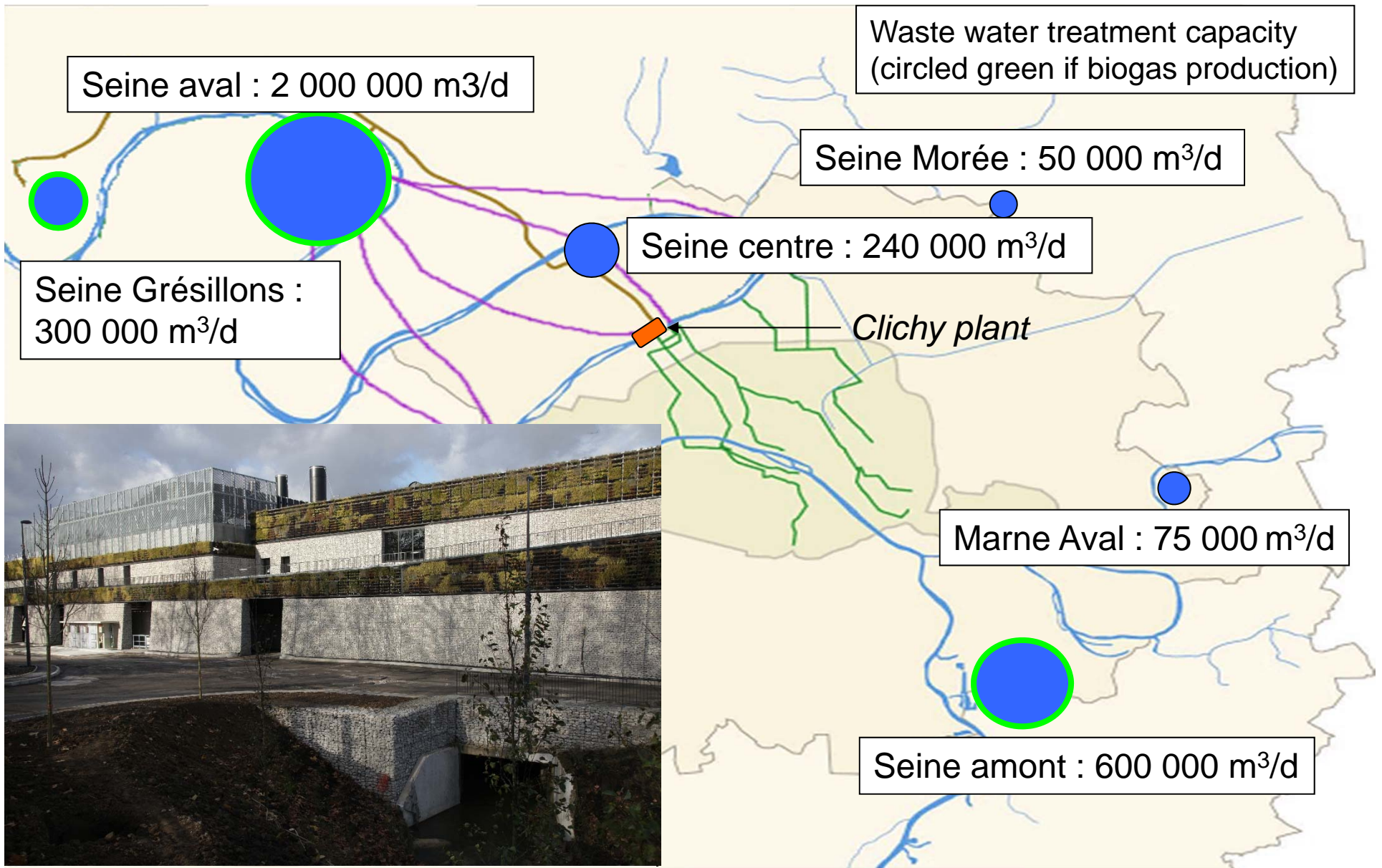
- SIAAP short presentation
- Why a crisis management in SIAAP
- Crisis management in SIAAP
- First lessons learned form previous exercises
- Immediate debrief of the “Clichy” exercise
- Perspectives

Crisis management in SIAAP



- SIAAP short presentation
- Why a crisis management in SIAAP
- Crisis management in SIAAP
- First lessons learned form previous exercises
- Immediate debrief of the “Clichy” exercise
- Perspectives

SIAAP - W . W . T . P .





- SIAAP short presentation
- **Why a crisis management in SIAAP**
- Crisis management in SIAAP
- First lessons learned from previous exercises
- Immediate debrief of the “Clichy” exercise
- Perspectives

- **SIAAP is operating very large plants with high industrial risks**
 - 2 Seveso plants (SAV and SAM-Valenton) for strong biogas production and storage
 - => notably, requests from authorities since 2010 to set a crisis management organization and to perform regularly accidental response exercises
 - => strong experience at field level of such exercise in coordination with fire brigade**
 - For the other plants, wish of the management to set also such organization
- **Flooding preparedness requests**
 - EU directive (2007) ad its French application (2010-2011) leads to an engagement of the authorities in the Paris area (getting in mind 1910 massive flood)
 - => public services involvement (among them sanitation)
 - Recent impressive floods : Sandy mega-storm Oct. 2012, central Europe June 2013, French Brittany winter 2014 and England Feb 2014
 - => severe events that highlight the needs for preparedness in a context of climate change that could worsen extreme weather situations
- **Real crisis at Siaap**

Real crisis management

22/09/2009

*Explosion in a effluent lifting tower at
WWTP entrance*



20 days crisis in order to
manage CH₄ production in
the 2000 m³ discharge tank

Temporary pipes for N₂
injection to tamper
explosion risk

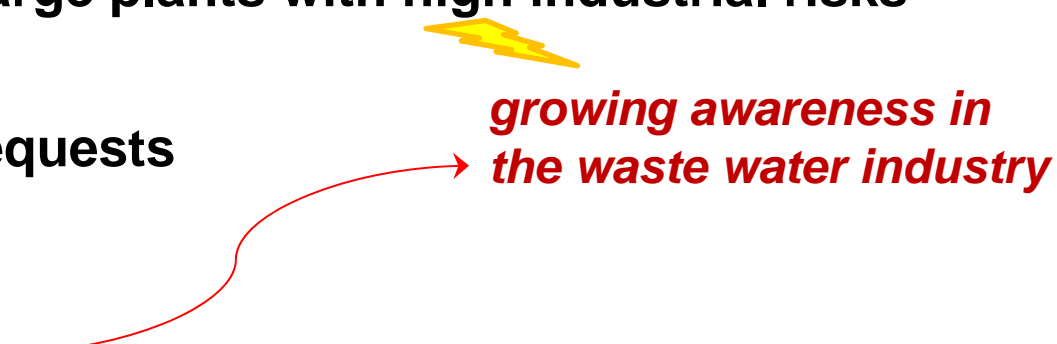
19/02/08

*Explosion and then fire
in biogas compression building*



6 days crisis in order to restart
with a limited capacity the WWTP

Crisis management requests

- **SIAAP is operating very large plants with high industrial risks**
 - **Flooding preparedness requests**
 - **Real crisis at SIAAP**
 - Industrial accidents that shows the needs for a strong local **and central** organization for an efficient response
 - “Global” crisis (strike, avian flue response plan) to be tackled at central level
- ⇒ **Strong needs for a clear organization of the SIAAP at top level to manage the quick/long crisis**
- ⇒ **Requirements could be seen as different than in potable water production**
but basically this is the challenge of operating major assets with “permanent” continuity and essential for the community
- growing awareness in the waste water industry*
- 



- SIAAP short presentation
- Why a crisis management in SIAAP
- **Crisis management in SIAAP**
- First lessons learned form previous exercises
- Immediate debrief of the “Clichy” exercise
- Perspectives

Setting up crisis management in SIAAP

- **2 levels organization : plant & central**

- at plant : procedure and regular exercises since 2011
- at central : works during 2012 and global procedure early 2013

Support DOI

Trade-offs for resources allocation

Coordination with the operating sites and the stakeholders

Communication



Central crisis management team

Little team with directors that could mobilize all the experts internally or externally (com)

Local emergency response team

3 layers organization dedicated to response to an accident in coordination with fire brigade

DOI

PCO

PCA



Safety of the people and assets

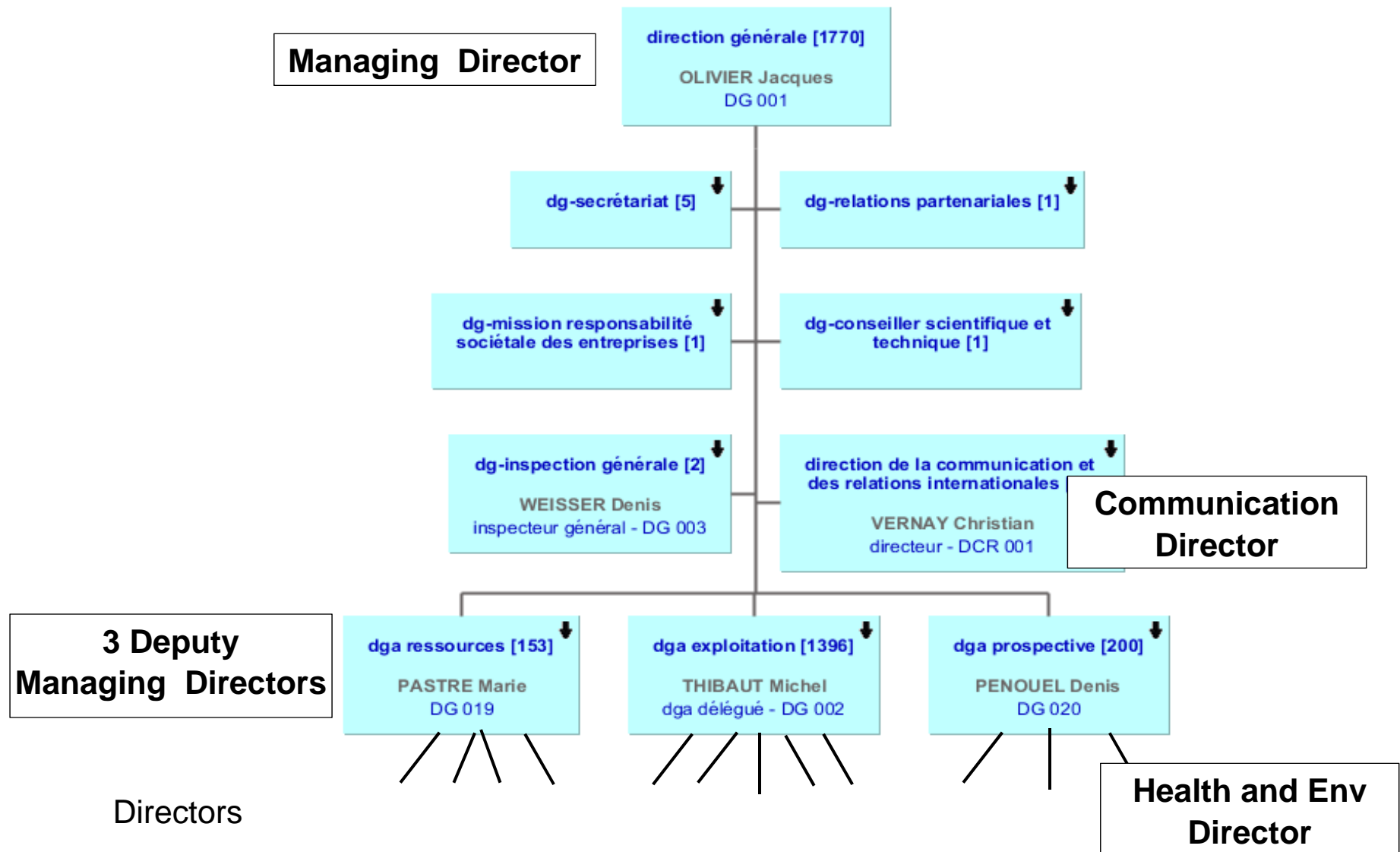
Contain the disaster with the help of fire brigade

Local communication

Maintain at best the operation

Setting up crisis management in SIAAP

- **Central organization : a small board of directors**





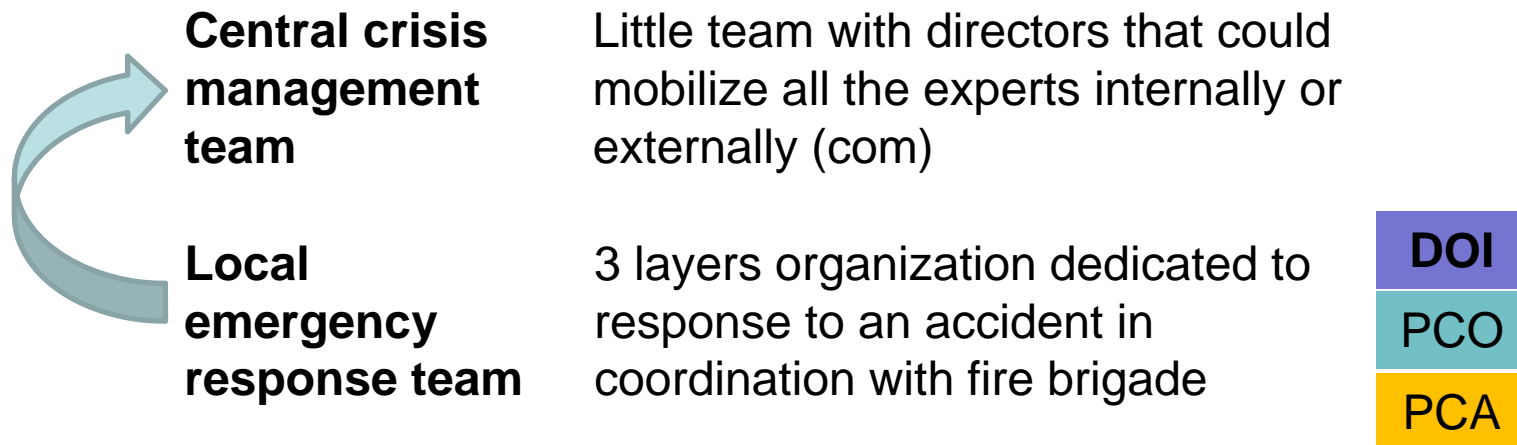
- SIAAP short presentation
- Why a crisis management in SIAAP
- Crisis management in SIAAP
- **First lessons learned form previous exercises**
- Immediate debrief of the “Clichy” exercise
- Perspectives

First lessons learnt

- **3 exercises with central crisis management team**

- 2 for accident in plant: toxic release due incompatible mixing of chemicals and explosion and fire (**quick event**)
- 1 for flood (ECOP15 2 days) but with minimal involvement

*Difficulties to get information from the site (effectiveness, accuracy)
=> impair main goals of the CCMT : anticipation and communication*



Little support from CCMT (time to inform them and waiting for communication defined by CCMT)

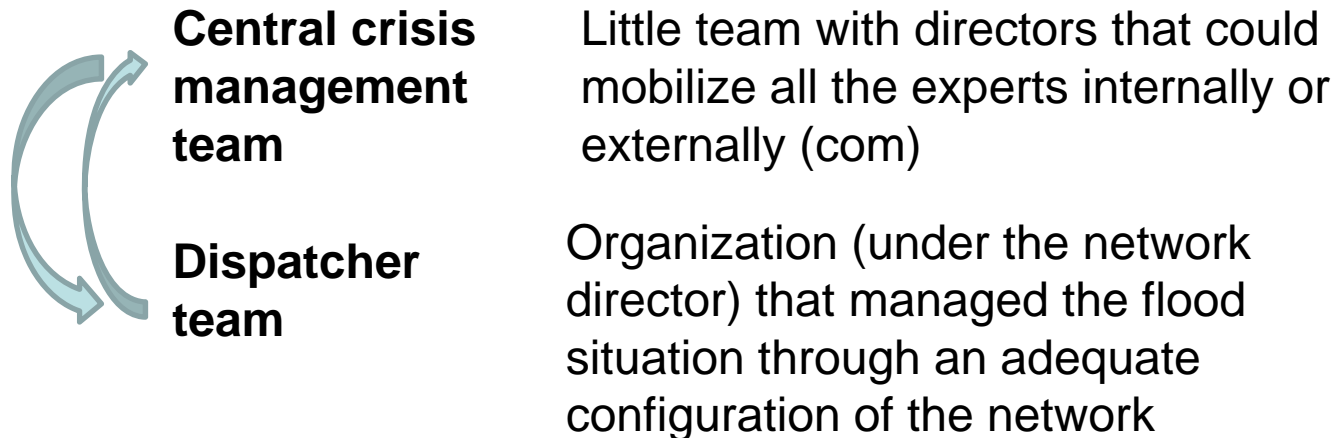
***=> Of course CCMT is concerned by the accident but not easy to have a useful role during such a crisis (mainly managed in the field)
Moreover, crisis recovery is never played***

First lessons learnt

- **3 exercises with central crisis management team**

- 2 for accident in plant: toxic release due incompatible mixing of chemicals and explosion and fire in a plant (**quick event**)
- 1 for flood : ECOP15 2 days (**long event**)

Little involvement since everything goes “fine” during this exercise



No needs for decision since everything goes as foreseen in the flood procedure of the network division during this exercise and no interaction with the plants

=> An exercise that allow only to check the flood procedure



- SIAAP short presentation
- Why a crisis management in SIAAP
- Crisis management in SIAAP
- First lessons learned form previous exercises
- **Immediate debrief of the “Clichy” exercise**
- Perspectives

Immediate debrief of the “Clichy” exercise

- **“Clichy” exercise : a table top exercise on flood situation**
 - First table top exercise built in by the Siaap
=> lesson learnt during the preparation : effective robustness of our system; better understanding on the way our system will react; uncertainties in our modelling tool; needs for updated documents
 - Time accelerated to simulate intermittent mobilization of the CCMT
 - Choice to focus on one point of the network, whereas in flood condition several issues will appear
 - Objectives : setting up the CCMT with clear role definition; situation analysis and anticipation; communication with authorities and stakeholders
- **Immediate debrief**
 - Calm in the CCMT with clear role sharing, but miss the main ; problem to have commun language about flood level
 - Problem of the long time and effective communication with substitute
 - Anticipation takes time (but not easy in such a short exercice); communication in reaction not proactive

Crisis management in SIAAP

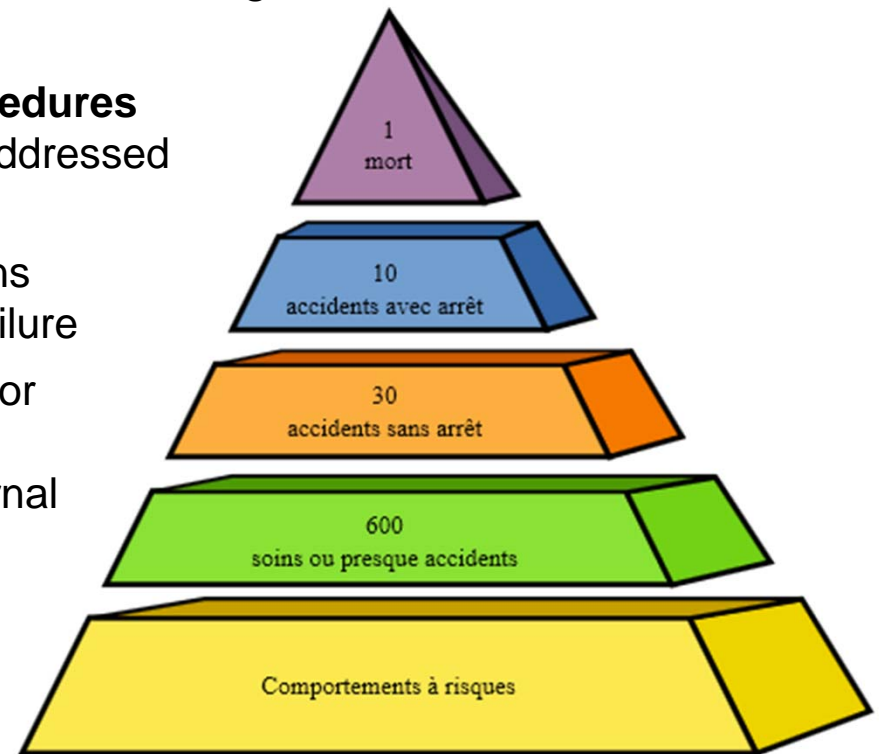


- SIAAP short presentation
- Why a crisis management in SIAAP
- Crisis management in SIAAP
- First lessons learned from previous exercises
- Immediate debrief of the “Clichy” exercise
- **Perspectives**

- **Next exercise : Sequana 2016**
 - Work to update our flood procedure at network but mainly at all our plants
=> at plant, the Disaster Recovery Plan is the most important
 - Massive exercise on 3 days with the Paris area operators and the civil defense
 - Internal exercise to prepare it previously
- **Training a CCMT**
 - Current exercise were interesting but never put the CCMT in a crisis mode.
 - Could they get knowledge by studying real disaster responses from other water operators?

- **Crisis management as the final touch of the risk management**

- It's easier to be involved in crisis management training than to set up an efficient risk management (more real, more fun)
- Preparedness could be address by CMT training but also by :
 - the soundness of the **operating procedures** in which various risky situations are addressed
 - the **reliability** of the “production” tool in order to easily face trouble situations
=> need to pay attention on hidden failure
 - the depth of the **risk analysis** (base for the reliability forecasting and operating procedure) addressing internal and external risk
=> current work in Siaap to determine “acceptable risk” in order to include it in the design of the “production” tool





THANKS FOR YOUR ATTENTION

MERCI DE VOTRE ATTENTION