Regional Exercise: Tuilte
Background

- ESB approach to the ERWG Training & Exercise Sub-group
- Desire for a Regional Exercise
- Prominence of Weather Events in recent years
- Regional Risk Assessment
  - Flooding
  - Failure of a utility
Poulaphuca Dam

- Blessington Lakes
- Built in the 1940’s
- Created to enable the 2nd power station in Ireland
- Liffey now has 3 Power Stations (Poulaphuca, Golden Falls, & Leixlip)
- Down river from Poulaphuca are 2 water treatment plants supplying water for 84% of the Greater Dublin area.
Poulaphuca Dam acts as a gatekeeper for the river Liffey.

Releases from the dam affect the levels of the river from Wicklow, through Kildare into Fingal, passing through South Dublin and into Dublin City.

Poulaphuca Dam is a critical piece of state infrastructure; it does not exist to prevent flooding that is a consequence of generating electricity.
To examine the consequences if something happened at the Poulaphuca dam which resulted in large releases of water.

Options for an exercise

- Dam failure
- Act of wilful damage to the Dam
- Large scale releases of water to protect the Dam
Establish an Exercise team

Appoint an Exercise Director

Establish the aims and objectives

Regional Approach
Planning Stage

- Establish a suitable scenario that fits with the aims and objectives
- Decide how the exercise will be delivered
- Exercise was split into 2 stages
- Promote planning for flooding by every agency

Exercise Aims and Objectives

The exercise will examine a multi-agency response to a major emergency affecting a large portion of the East Region. The exercise will focus in five key areas:

- Resources
  - Allocation of available resources
  - Identification of additional resources outside the region
  - The management and control of resources brought into the region
  - Identification and prioritisation of key strategic infrastructure

- Regional Coordination
  - Location, Chair and participation
  - Decision making mandates
  - Integration of other agencies
  - Relationship with National Coordination
  - Role of ESB, OPW & Irish Water
  - Identification and integration of resources from outside of the Region

- Evacuation
  - Decision making
  - Legal complexity of dealing with people resisting evacuation
  - Warning and informing
  - Movement and refusal to move
  - Rest Centres and Regional Resources

- Communication: Between response agencies (PRAs and other bodies) and with the public
  - Communication flows between ESB, OPW and PRAs
  - Public information and Communicating Technical messages
  - Regional Communication Plan

- Recovery
  - Community Resilience
  - Clean Up
Collaboration between the Department and the OPW produced two documents in 2008:


- A Protocol for 'Multi-agency response to flood emergencies' (updated in 2016)
**OPW Flood Information Websites**

**Flood Maps Website** (Successor to floodmaps.ie)

- Website: Floodinfo.ie
- Searchable Database
- Reports and Photos
- Historic Flood Outlines
- Predictive Flood Maps CFRAMs
- Available to the public
To examine a significant pluvial event in the region which affects the levels on the Poulaphuca dam. In order to protect the structures of the dam, the ESB are forced to increase the releases from the dam causing a fluvial event on the River Liffey that equates to a 1:1000 year flood.

In addition the region was already experiencing significant flooding from the increased rainfall.

24 hours notice was provided by ESB

Predicted flooding was in line with maps available on www.floodinfo.ie
The ESB provide weekly information on dam levels and discharge rates.

They also provide warnings of significant changes.

In this scenario 24 hours notice was provided by the ESB of the potential for significant discharges of water.
Realistic Weather

Advance Warning
Tuille Exercise

Weather Warning

Level: Red

The following Warning has been issued by Met Éireann at 15:00 Hours Wet 2019

For Leinster and Munster

Heavy rain during Thursday will give accumulations of greater than 70mm and there will be a risk of widespread flooding.

Valid from 00:00 hours Thurs, 21 Mar 2019
Valid to 23:59 hours Thurs, 21 Mar 2019

Tuille Exercise

(Sample weather briefing produced for Major Emergency Management East Region Inter-Agency Exercise on Thursday 21st March 2019)
What was the scenario?
This scenario detailed that to protect the dam there would be discharges of 120 m³/s (approx 1 megalitre every 8 seconds)

10 No. Double Decker Buses released every 8 seconds
1 Megalitre

The ESB warned that this level of release would continue for a prolonged period, possibly days depending on the weather

Liberty Hall Tower released every 2 mins
13.4 Megalitres
What was the Scenario?

- We wanted all agencies to look at the event in 3 separate phases
  - **Phase 1**
    Before the flooding (What is the agency doing in the 24 hours before the flooding)
  - **Phase 2**
    During the flooding (How will the agency respond during the flooding)
  - **Phase 3**
    Managing the aftermath (What is the agencies role in the recovery phase)
Aim was to always to try to keep the scenario relevant.

OPW modeled the affected areas and established how many buildings in each area would be flooded. (residential and non-residential)

Irish Water outlined that a possible outcome of the flood could be a temporary closure of the Leixlip plant.
What started as a responding to flooding event developed into a flooding and a water supply emergency.

**Leixlip Water Treatment Plant**

- Offline for 2–3 days
- 33% of water for the GDA
- >500,000 people affected
- Recovery period up to 2 months
- Water restrictions in other areas
- Activation of LA DWIRP’s
- Prioritise of supply
  - Public Health vs Jobs
Scale of the GDA:

In GDA

Production capacity: 45No. Liberty Halls

Demand: 43No. Liberty Halls

Headroom: 2No. Liberty Halls
In addition to exercising a regional response to a major flooding event, the exercise team wanted to enhance inter agency awareness to the widest possible audience and to promote a proactive approach to dealing with major flooding.

It was decided to deliver the exercise in 2 stages. Stage I a workshop where each agency was asked to explain the capacity of their agency in dealing with this event, their role in each phase and to identify what they expected of other agencies.
Tuilte Stage I

- Killashee Hotel
- 21st March 2019
- 13 speakers
- Over 100 people attended representing 20 different agencies

- Workshop to focus on the individual agencies response capabilities and expectations.
Tuilte Stage II

- Tallaght stadium
- 11th April
- 112 people in attendance
- Exercised a Regional Co–ordination Group
- The RCG consisted of 13 individuals representing 13 separate agencies and supported by 13 crisis mgt teams
- Exercise had 3 separate phases
  - 24 hrs before the first major release
  - During the flood
  - 3 days after the major releases stopped
Tuilte Stage II

Additional consulting agencies
• Irish Rail
• Mountain Rescue
• Irish Red Cross
• TII
• Irish Coast Guard
Tuilte Stage II
Crisis Mgt Teams were given time to consult on issues that were raised at the Regional Co-ordination Group.

Information Management system was utilised during the exercise.
Opportunity to test other aspects of a Major Emergency.

Media Exercise was ran in tandem with the Tuilte Exercise

HSE Area Crisis Management Team held a full activation
What is a Regional Co-ordination Centre

We were trying to replicate the National Emergency Co-ordination Centre at regional level.

We wanted to bring all the relevant agencies for managing this event into one location.
Why a Regional Co-ordination Group

- Alternative to a RCC was possibly 4 separate LCC’s
- Each Agency could not attend each of those LCC’s
- Easier to access regional/national assets
Points of Interest

Dublin City Council, Civic Offices, Wood Quay  Flooded
Dublin Fire Brigade Headquarters, Townsend St  Flooded
Eastern Regional Control Centre, Townsend St  Flooded
Civil Defence Dublin HQ, Wolfe Tone Quay  Flooded
LGMA Offices, Ushers Quay  Flooded
Dept of Housing, Planning and Local Government  Flooded
Lessons Learnt

On completion the exercise team produced an exercise report including 11 recommendations including:

- Increase the Frequency of regional exercises to enhance Familiarity
- Identify locations and activation plans for RCC’s
- Prior discussions on who will chair the RCC
- Each agency should exercise the scenario at a local level
It’ll never happen

Whaley Bridge Dam

- Significant weather event
- 1000 people evacuated
- Reservoir levels lowered with major pumping operation
Townsville, Australia

- February 2019
- 5 deaths
- 1 week of heavy rain
- 3,300 homes damaged
- 1,500 beyond repair
- Dam was opened to prevent further damage but resulted in flooding
- Over €750 million in insurance claims
600,000 people received 2 boil water notices

Water was still available but not potable

Risk of gastrointestinal infection
Thank You