Locational Signals Preferred Options
Consultation

RECOMMENDED LOSSES STRATEGY
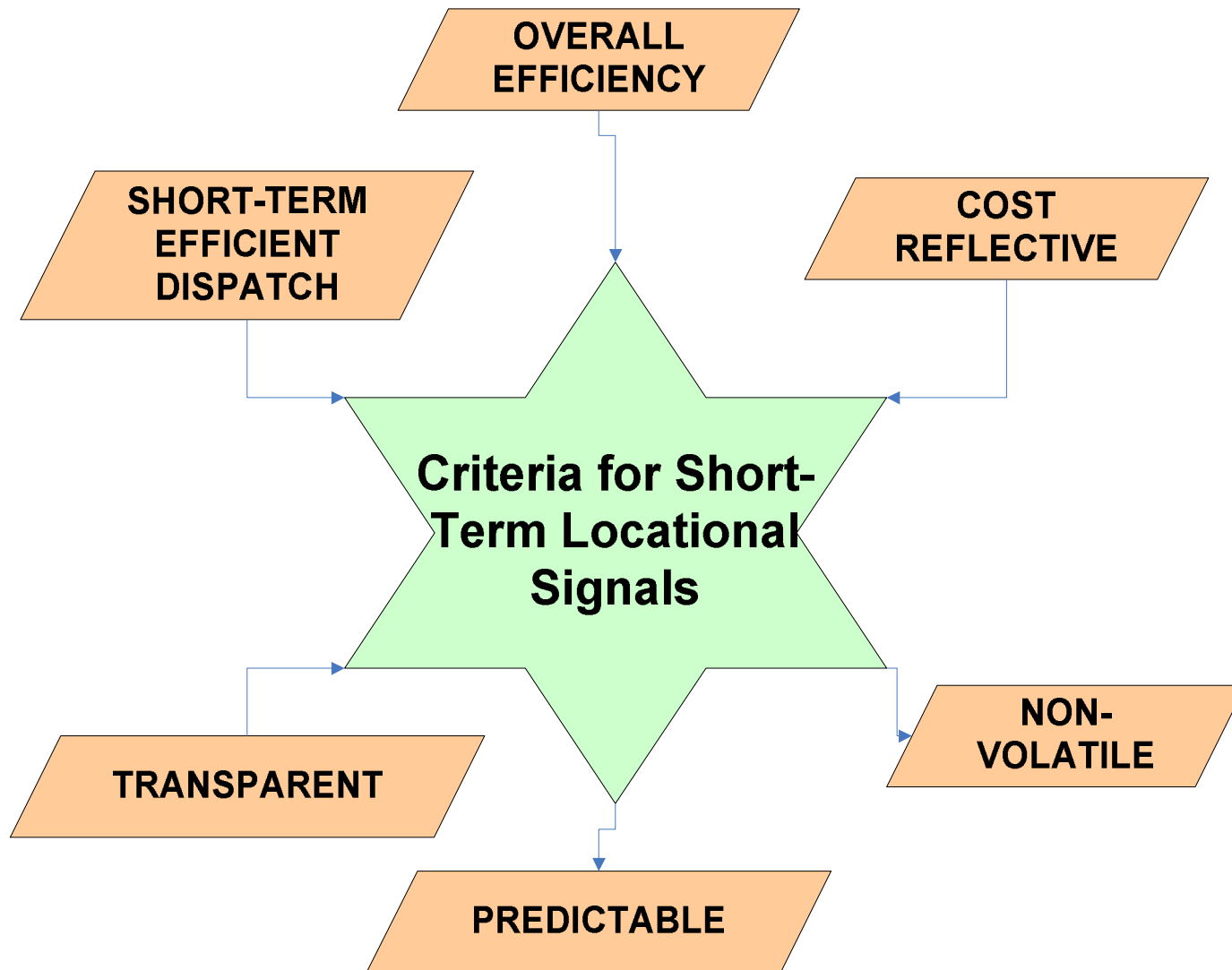
Louise Carolan
Tim Hurley

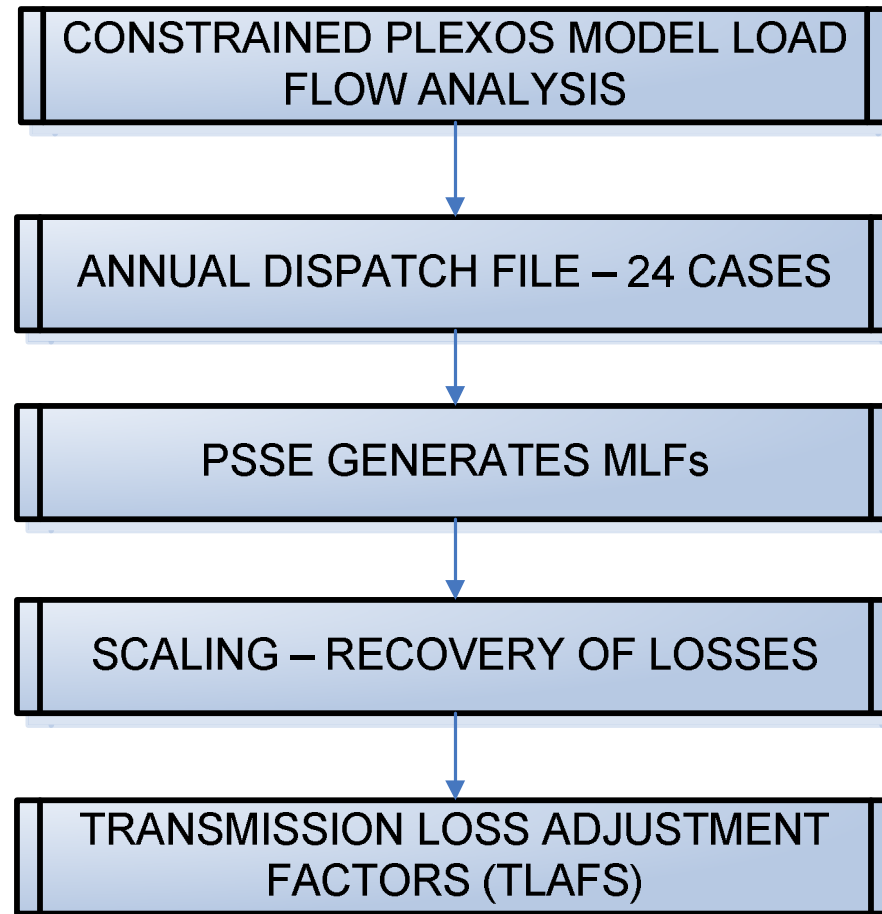# LOCATIONAL SIGNALS

Long-Term
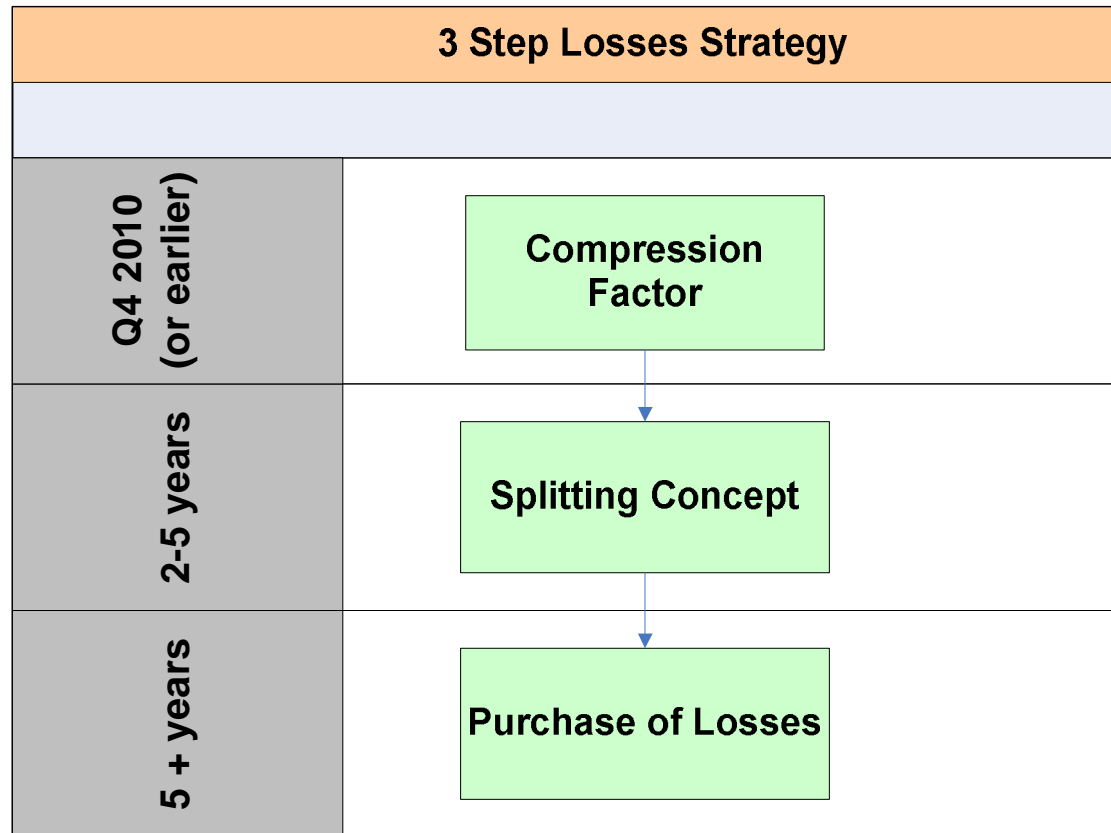
Short-Term

OVERALL EFFICIENCY

SHORT-TERM EFFICIENT DISPATCH

COST REFLECTIVE

Criteria for Short-Term Locational Signals

TRANSPARENT

NON-VOLATILE

PREDICTABLE

Current TLAF Methodology

CONSTRAINED PLEXOS MODEL LOAD FLOW ANALYSIS

↓

ANNUAL DISPATCH FILE – 24 CASES

↓

PSSE GENERATES MLFs

↓

SCALING – RECOVERY OF LOSSES

↓

TRANSMISSION LOSS ADJUSTMENT FACTORS (TLAFS)

TUoS & TLAF's Workshop

Benefits & Limitations of Current Methodology

Positives	Negatives
• Aids Short-term Efficient Dispatch • Cost Reflective • Provides a strong short-term locational signal	• Overly Volatile & Unpredictable • Ex-Ante Loss Factors - Wind • Not Iterative Process • Complex

Preferred Losses Strategy

3 Step Losses Strategy	
Q4 2010 (or earlier)	Compression Factor
2-5 years	Splitting Concept
5 + years	Purchase of Losses

Short term
Compression Factor Method

X=TLAF

- **If X < Normalisation Number (NN),**

$$\left. (NN - X) \middle/ 2 \right. + X$$

- **If X > Normalisation Number (NN),**

$$X - \left. (X - NN) \middle/ 2 \right.$$

TUoS & TLAF's Workshop

Short term
Compression Factor Method

Statistical Distribution 2010 Regular TLAF

Statistical Distribution 2010 Compression Factor

If X<1 , ((1-X)/2)-X

If X>1, X-((X-1)/2)

Limits at 0.94 and 1.04.

TUoS & TLAF's Workshop
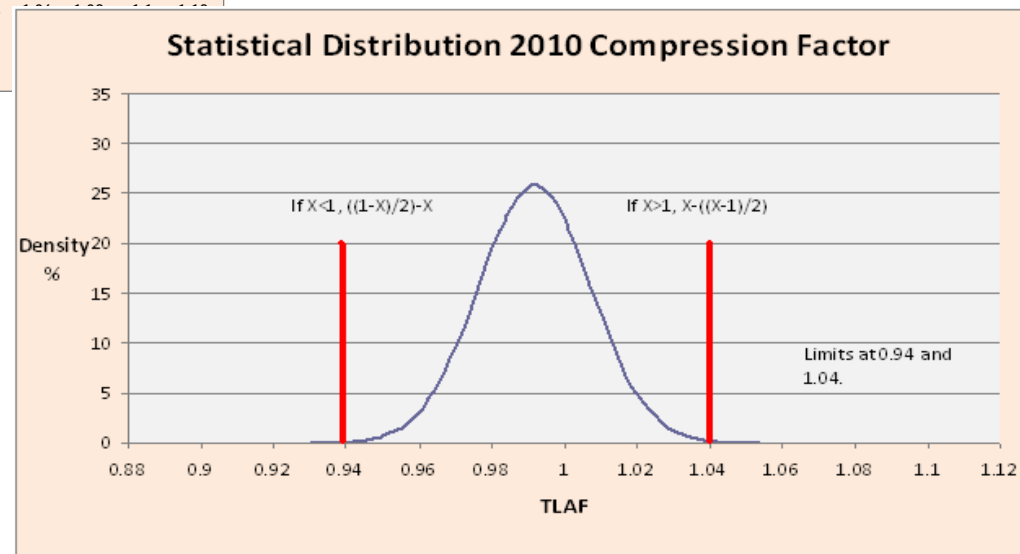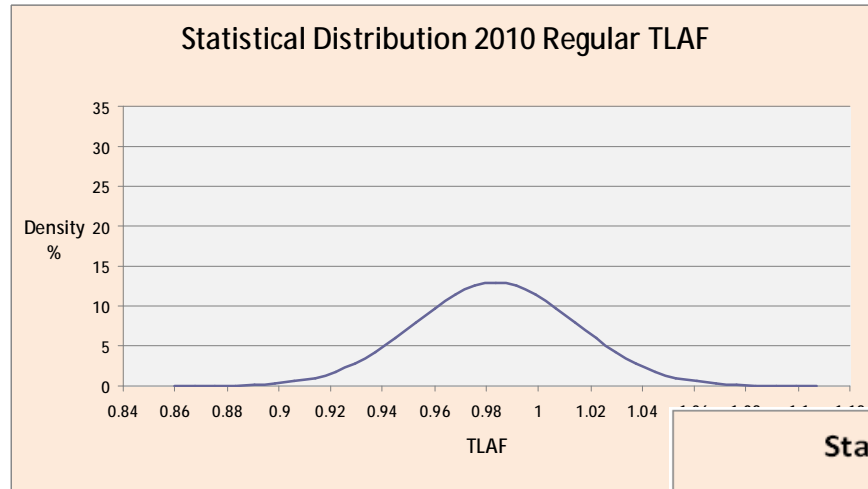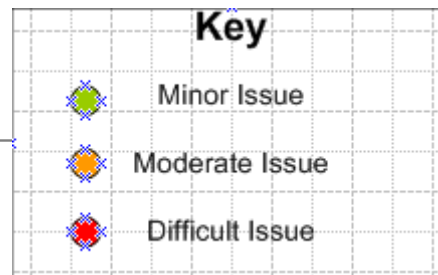
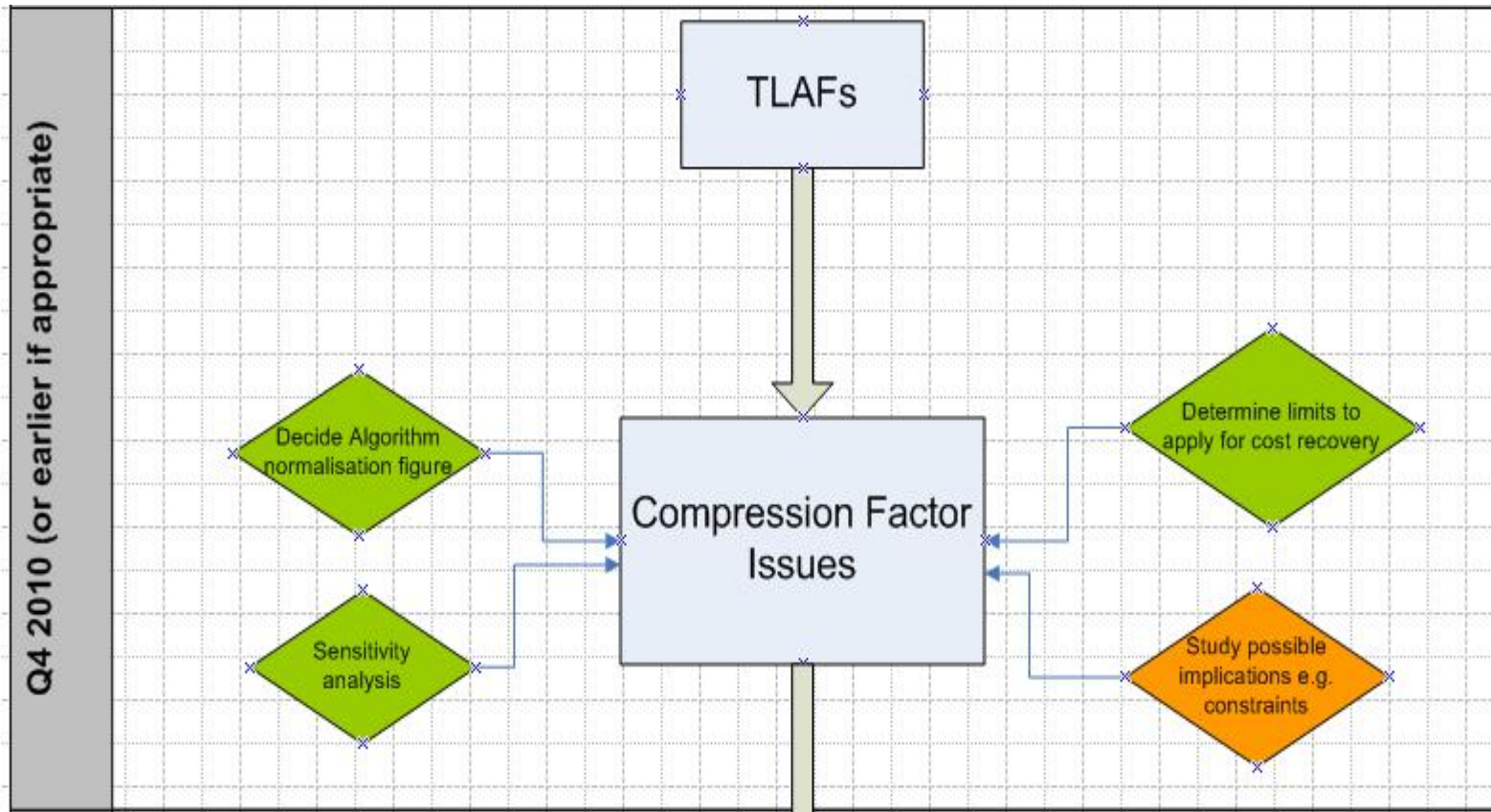# Short term
Compression Factor Method

Recovery of Losses
HOW?

Short term
Compression Factor Method

Benefits of Short Term Option

- Immediate Temporary Fix
- Merit Order Ranking Maintained
- Limits – Risk Abatement
- Reduction in effects of volatility

Issues with Short-Term Option

Medium Term- Splitting

**One Node - Two
Separate Processes**

**Further Study
Required**

**Method for Loss
Optimisation in
Dispatch Scheduler**

**Uniform Loss
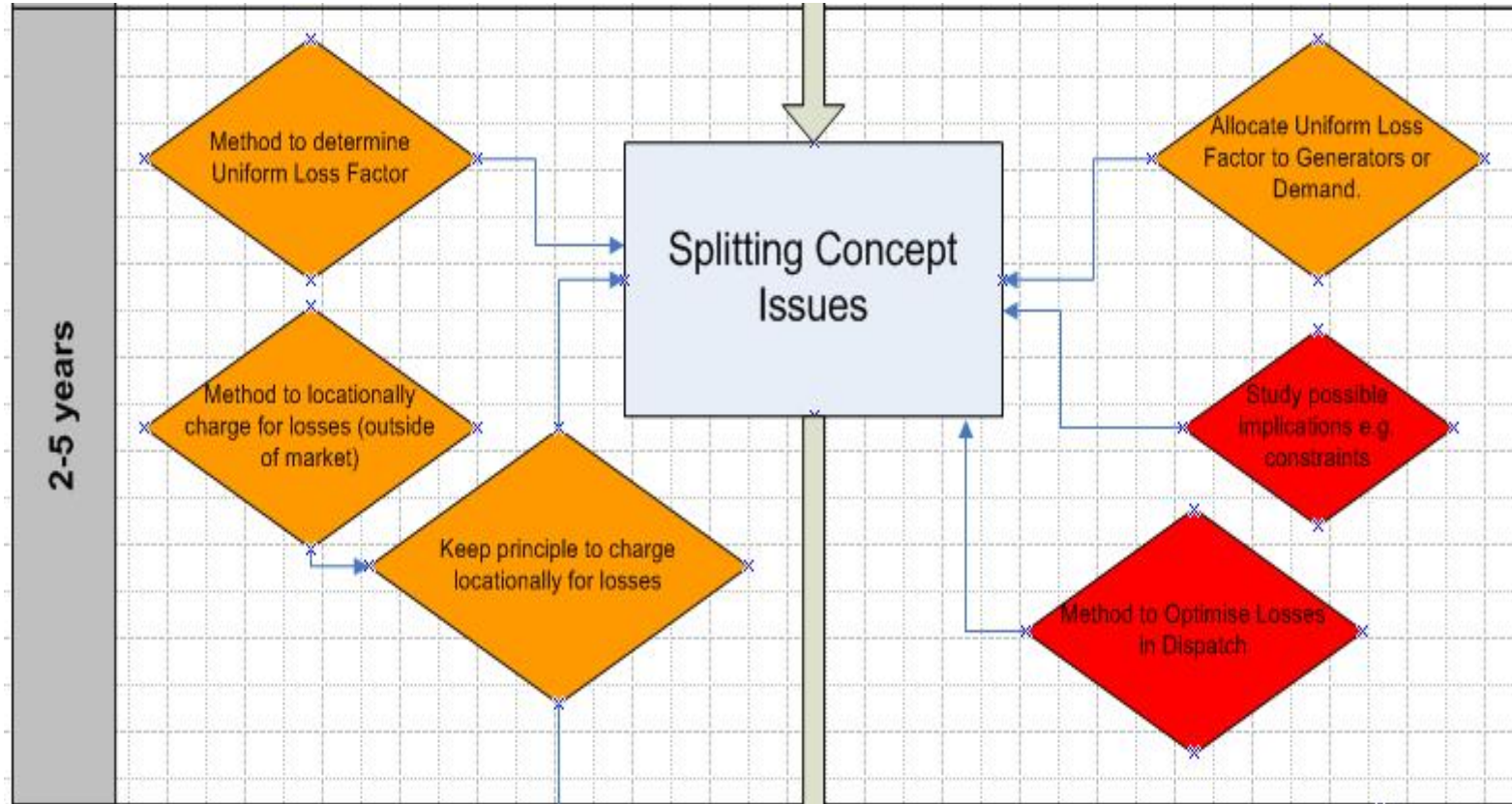Factor in market
for everyone**

Medium Term- Splitting

Benefits of Medium Term Option

- Loss Optimised Dispatch Scheduling
  - In real-time
- Removal of volatility & predictability issues
  - MSQ/Merit Order unaffected by TLAF

Issues with Medium Term Option

Long Term - Purchase of losses

**Further Study
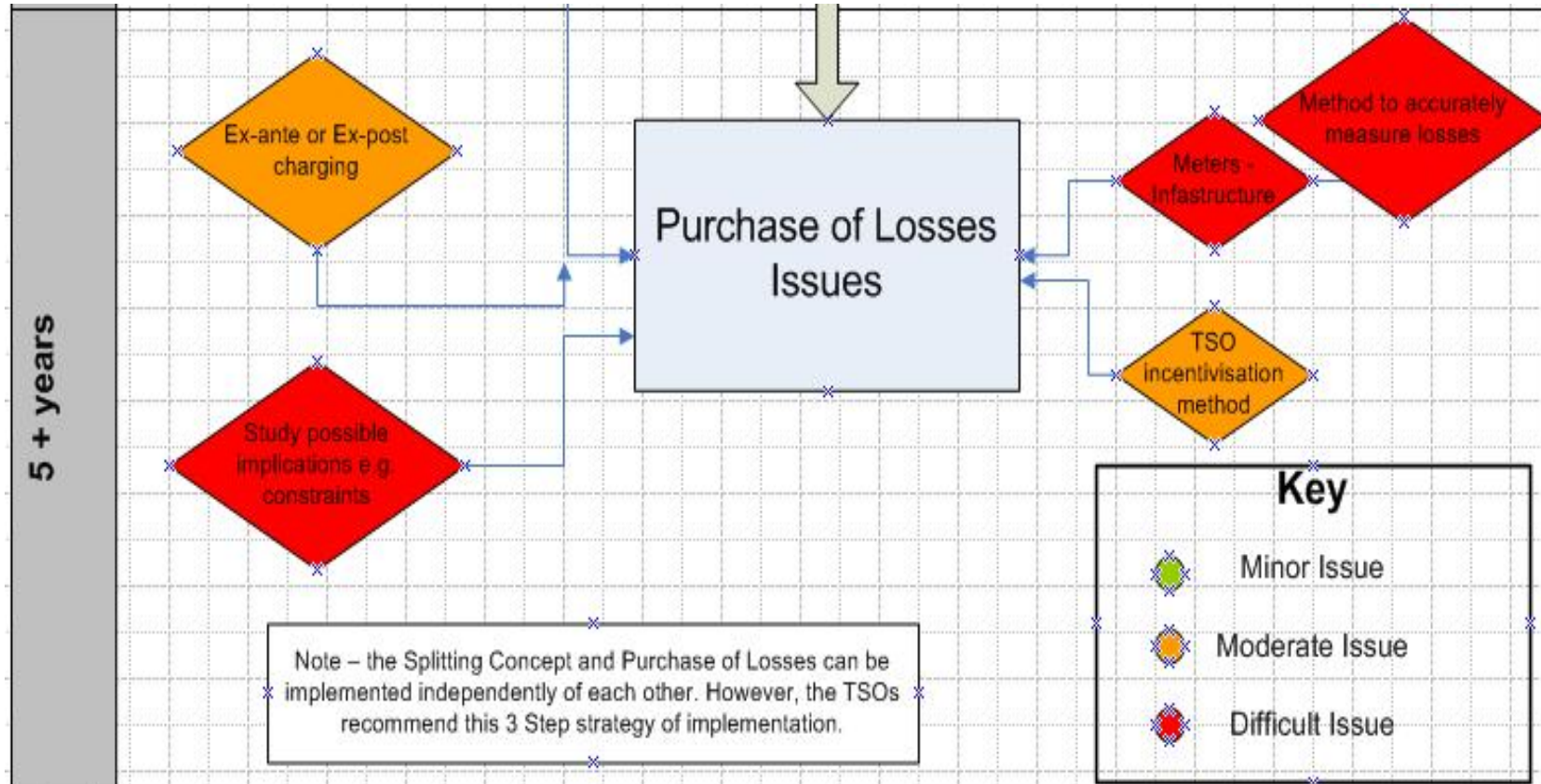Required**

Meter → Meter →

TSOs purchase the difference
between what the market pays
and what is measured at Gen
Meter.

Long Term - Purchase of losses

Benefits of Long Term Option

- Accurate Measurement of Losses
- Potential to Fullfil All Criteria
- Incentivisation

Issues with Long Term Option

5 + years

Ex-ante or Ex-post charging

Study possible implications e.g. constraints

Purchase of Losses Issues

Meters - Infastructure

Method to accurately measure losses

TSO incentivisation method

Note – the Splitting Concept and Purchase of Losses can be implemented independently of each other. However, the TSOs recommend this 3 Step strategy of implementation.

Key

Minor Issue

Moderate Issue

Difficult Issue

Questions