KROLL
Security Group

Security Risk Mitigation for Nuclear Facilities

MMC Companies

KROLL
Security Group

PERSPECTIVE : Collective & Cultural Bias

- **Primary Marsh - McLennan Companies :**
  - **Marsh** (***Insurance Brokerage & Services***)
  - **Kroll** (***Security & Risk Consulting***)
  - **Mercer** (***Management & HR Consulting***)
  - **Guy Carpenter** (***Re-Insurance Specialists***)
  - **Putnam** (***Investments***)

KROLL
Security Group

PERSPECTIVE : Presenter's Bias

- **Michael Minieri, CPP :**
  - **Senior Manager – Security Consulting & Engineering – EMEA**
  - **32 Years in the Protection of Lives & Assets**
  - **Former Security Manager at a U.S. Nuclear Power Station**
  - **Former Law Enforcement Officer**
  - **Vetted Member FBI's INFRAGARD Program**

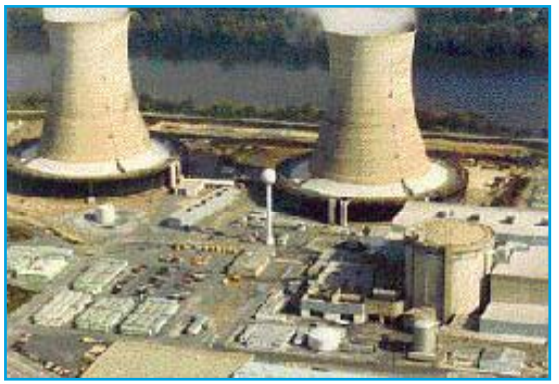
KROLL
Security Group

Presentation Objectives:

✓ **Identifying the Security Liabilities of a Nuclear Energy Project**

✓ **Risk Management & Protection of these Liabilities**

✓ **Impact of Security Risk on Finance & Investment Decisions**



KROLL
Security Group

The Nuclear Industry was a Pioneer of High Security Practices from its Origin.

Many of the Basic Security Concepts are still in use today, both inside and outside the Nuclear field.

Nuclear Detractors have it mostly Wrong when they Criticize Post-9/11 Security.

KROLL
Security Group

How We Define "*Security Risk*" :

"Security Risks are potential future negative consequences of possible, foreseeable, intentional and usually illegal acts, which – if they materialize and are successful – would likely result in a loss that is unacceptable under the totality of the circumstances"

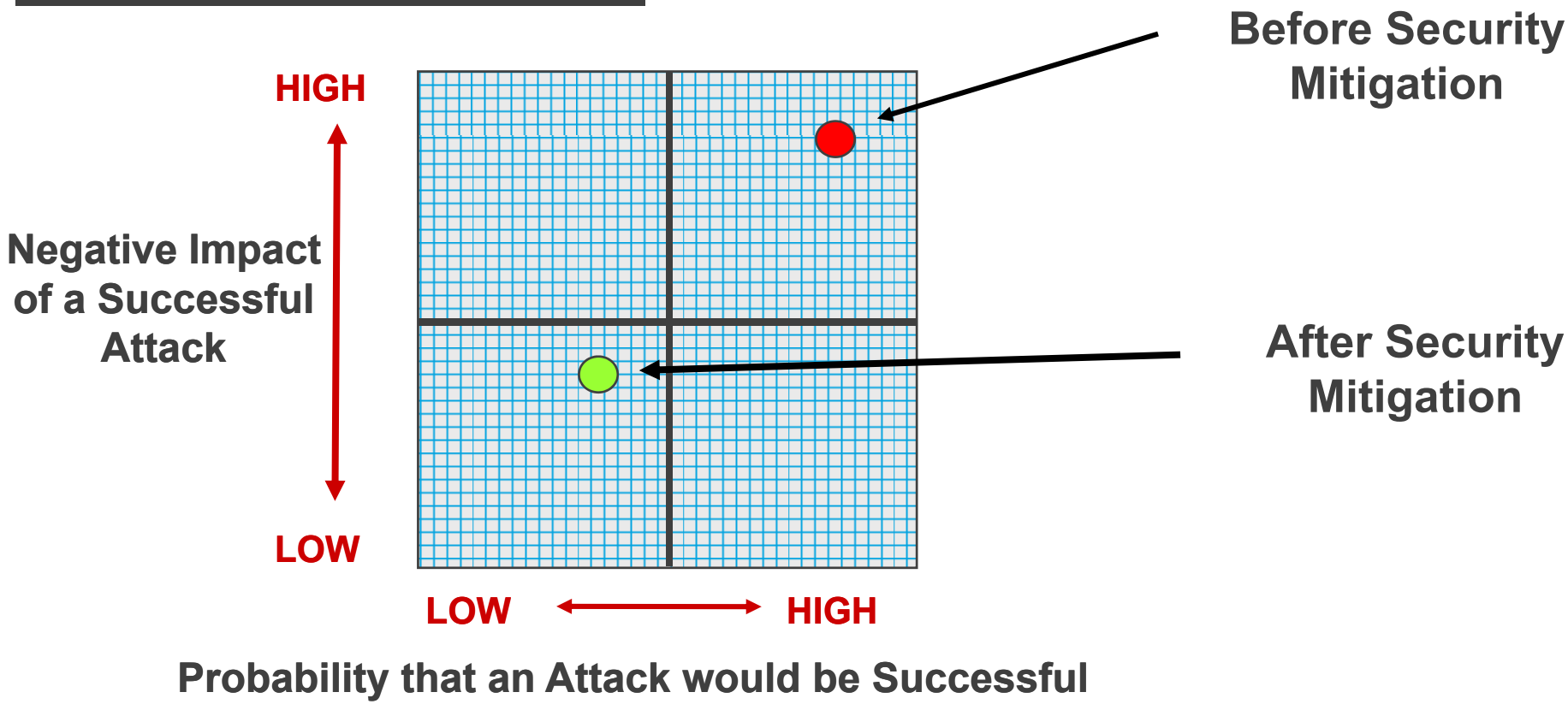
KROLL
Security Group

How We Define Security's Role in Risk Management:

"Security is the practice of reducing the risk of probable loss from intentional and usually illegal acts to an acceptable level"

KROLL
Security Group

Reducing Security Risk:



KROLL
Security Group

Security ADVERSARIES for Nuclear Facilities:

- Terrorists
- Activists
- Criminals
- Deranged Persons
- Disgruntled Current & Former Employees

KROLL
Security Group

Adversary Characterization:

- **WHO:** ***People*** ***most likely to threaten the assets.***
- **HOW:** ***Tactics & Techniques*** ***likely employed.***
- **WHAT:** ***Tools, Weapons & Materials*** ***available.***
- **WHEN:** ***Time Periods*** ***of greatest vulnerability.***
- **WHERE:** ***Most likely points of attack.***
- **WHY:** ***Adversary Motivations & Objectives.***

KROLL
Security Group

An Adversaries MOTIVATIONS & OBJECTIVES are the key to "*Target Attractiveness*".

Terrorists (sample)

- Mass Casualties
- Discomfort through Fear
- Media Exposure
- Symbols of Western Society
- Economic Disruption

KROLL
Security Group

Attack Scenarios:

- Overt Perimeter Attack
- Covert Attack
- Insider Attack
- Proximity Attack
- Exterior Attack

KROLL
Security Group

ADVERSARY Profile Combined with ATTACK SCENARIO forms the Security "*Design Basis Threat*" (DBT)

KROLL
Security Group

Weighted Factors:

- PROBABILITY of Attack
- VULNERABILITY to Attack Success
- NEGATIVE IMPACT of Successful Attack

KROLL
Security Group

Assessing the Specific Security Risks:

THREAT / RISK MATRIX																									
Tier / Rank	Adversary →	Terrorist					Criminal					Activist					Disgruntled					Deranged				
	Attack Scenario → / Critical Assets or Areas ↓	Overt	Covert	Insider	Proximity	Exterior	Overt	Covert	Insider	Proximity	Exterior	Overt	Covert	Insider	Proximity	Exterior	Overt	Covert	Insider	Proximity	Exterior	Overt	Covert	Insider	Proximity	Exterior
	Core & Containment Structure	5																							
	Control Room																		5							
	Cooling System																									
	Security Operations Center																		5							
	Contaminated Waste	4																								
	Transmission Conduits															5										

*** Only 150 Combinations Shown (few ratings 1 through 5 only shown as examples)**

KROLL
Security Group

Some Security Risk Considerations:

- **Construction / Pre-Fuel Delivery**
  - ***Intelligence Gathering****
- **Fuel & Waste During Transport**
  - ***Theft***
  - ***Release***
- **Post-Fueling & On-Site Storage**
  - ***Theft***
  - ***Release***

**** A terrorist in the 1972 Summer Olympics massacre secured employment in construction of game venues and obtained knowledge of the physical layout of the building housing the Israeli athletes.***

KROLL
Security Group

Nuclear Facility Security: *Finance & Investment Context*

- **Quality of – and Commitment to – Security?**
- **Degree of Transfer of Financial Risk: *Insurance?***

KROLL
Security Group

Thank You !

Questions & Answers