

# CORPORATE BUSINESS CONTINUITY (AND CRISIS MANAGEMENT) UPDATE

MARCH 2017



EXTERNAL USE



SECURE CONNECTIONS  
FOR A SMARTER WORLD

# Business Continuity and Crisis Management Policy

NXP is a safety and security-conscious business, and we take all reasonable precautions to avoid situations that may threaten the safety or welfare of our employees, their families, suppliers, customers and other members of the community, or of our business and stakeholders. NXP has an integrated Business Continuity Management (BCM) system modelled after guidelines of ISO 22301

In the event of a situation that threatens the safety and security of people or property, NXP managers will make every reasonable effort to minimize damage and to protect people, assets and the company's corporate reputation, and to provide affected audiences with timely and accurate information on the situation. In the event of a major emergency, Crisis Management Teams (CMT) will be activated in accordance with their Group, or Site or regional Crisis Management Plan. In the case of an event affecting multiple NXP operations, where the site or regional Crisis Management Team requests, or as the event mandates, the NXP Corporate Crisis Management Team will be activated.

NXP fabrication operations based in number of our locations are regulated through specific governmental agencies. In this context, certain incidents must be reported to those entities by NXP in compliance with program guidelines. Consistent with those requirements, NXP may be required to keep the existence and details of the incidents confidential

# Manufacturing Network

## NXP Manufacturing Sites:

Factory combinations support dual sourced technologies for key processes and packages



### All NXP manufacturing sites

- ISO14001 Certified
- OHSAS18001 Certified
- ISO9001 Certified
- TS16949 Certified

# NXP Factory/Site Asset Risk Management Approach

BCP strategies are focused on the risks associated with each particular site

- Each NXP site has identified the potential risks present in today's NXP factory operations that can have an impact on product supply to end customer.
  - This may include physical factory asset risks within front-end and back-end operations such as facilities systems, utility infrastructure (electricity, water, etc), regional risks (natural hazards) or other supply risks (wafers, chemicals, gases).
- Each NXP site periodically reviews and updates the Site/Factory BCP's. These BCP related items are documented and maintained at the sites, and these are audited periodically.
- NXP fabrication operations based in a number of locations are regulated through specific governmental agencies. In this context, certain incidents must be reported to those entities by NXP in compliance with program guidelines. Consistent with those requirements, NXP may be required to keep the existence and details of the incidents confidential.



# Classification of NXP Sites

NXP conducts its business and operations in approximately **100 sites** and in over **30 countries** worldwide. While NXP provides utmost care at all our sites, we categorize our sites based on assessed risk, as well as size and magnitude of operations

**Tier 1** Significant impact if operations interrupted. Includes manufacturing sites and large design centers or sites with critical operations e.g. IT data centers. NXP Management and/or Business Continuity Team and/or Corporate EHS, will define which sites, other than manufacturing, are designated as Tier 1 for Crisis Management Planning purposes

**Tier 2** Moderate impact if operations interrupted, including design or software centers and major regional office centers. Typically will be non-manufacturing sites >150 employees. Some sites may be classified as Tier 1 based on management discretion

**Tier 3** All remaining low-risk sites, including sales sites or remote locations with <150 employees.

# Current CMT Process Requirements of NXP Sites

## Requirements of Tier '1' and '2' Sites

**Crisis Team** – Represent key functions

**Crisis Recovery** – Process to restore operations, notification & coordination with Business Continuity Team(s)

**Annual Meetings/Drills** – Arrange with adequate participation

**Senior Management Support** – Aware of CMT activities and support w/resources

**Reviews** – Post-incident review with clear action plans, document lessons learned, etc.

**Training** – Awareness of team and associated responsibilities

## Additional Requirements of Tier '1' Sites

**Risk Assessment** – Estimate probability and potential impact of risks to organization

**Crisis Plan** – Maintain written plan and update as appropriate

**Monitoring and Prevention** – Process to monitor developments and prevent crises

**On-site Contractors** – Review crisis programs of key contractors

## Additional Requirements of Tier '2' Sites

**Awareness** – Familiar with corporate plan site responsibilities

**Emergency Response Plan** – Provide a basic Emergency Response Plan for site

## Requirements of Tier '3' Sites

**Awareness** – Familiar with corporate plan site responsibilities

**Site Representative** – Designate key representative located on-site, as well as key contact list of appropriate personnel

## Testing of BCP's

For each of NXP's BCP elements, performance is evaluated, requires teams to conduct internal audits and periodic tests. These tests include elements of training and building awareness of how to handle disruptive incidents. Exercising BCP elements on non critical events (lower level incidents) as a learning method also act as tests as part of the ongoing business process.

# Comprehensive Business Continuity & Risk Management



NXP's

## Four-Tier Approach

- Includes an executive level team and individual site teams with specific site business resumption activities – reporting to executive team
- Each tier focuses on a specific risk area
- Business groups are integrated within each tier
- During a crisis all tiers interact with and complement each other and escalate to the corporate executive level Business Continuity Team (BCT)
- In the event of a large-scale crisis, the Corporate BCT will manage the event and pull in the support of all four tiers
- All plans are reviewed annually and more frequently if significant changes occur



# Site Assets Risk Management Plan



## ► Site Risk Management Teams

With corporate guidance and input, each NXP site defines, executes and measures results of risk mitigation actions in order to reduce likelihood and/or impact of the identified main risks.

These assessments include a focus on primary areas of likelihood of an event and the severity of an event (considering recovery time from an incident).



# Manufacturing Sites Risk Management & Incident Preparedness

Ed Bluestein ATMC



Excellent

Oak Hill OH-Fab



Excellent

Chandler CHD-Fab



Excellent

Nijmegen ICN8



Excellent

Tianjin ATTJ



Excellent

Suzhou ASEN (JV)



Excellent

Kaohsiung



Excellent

Bangkok ATBK



Excellent

Singapore SSMC (JV)



Excellent

Kuala Lumpur ATKL



Excellent

\*Insurer Risk Engineering Rating Scale: **poor**, **fair**, **average**, **good**, **excellent**



# NXP Manufacturing Locations Geo/Enviro Hazard Likelihood

All NXP Tier 1 sites have conducted risk assessments incorporating likelihood ratings of select aspects indicated on table below. In addition, site specific aspects have been considered in incorporated to BCP's with actions to mitigate risks, including;

- Utility supply issues, mitigated via dual feeds and Uninterrupted Power Supply (UPS)
- Regional weather related issues such as ice storms, rain storms, brush fires, Haze issues addressed by way of robust infrastructure and pro-active preparedness.

	Earthqke	Flood	Storm	Tsunami	Dust/Polu
Nijmegen: ICN8	1	1	1	0	0
Oak Hill: OHT-Fab	1	1	4	0	0
Ed Bluestein: ATMC	1	1	4	0	0
Chandler: CHD-Fab	2	1	2	0	4
JV-Singapore: SSMC	1	1	6	2	4
Bangkok: ATBK	1	4	6	1	2
Kaohsiung: ATKH	4	1	6	1	2
Tianjin: ATTJ	1	1	4	0	4
Kuala Lumpur: ATKL	1	2	4	0	4
JV- Suzhou: ASEN	1	1	2	0	4

0,1	Very Unlikely
2	Rare and unlikely
4	Possible
6	Likely
8	Almost Certain

# Product Supply Continuity

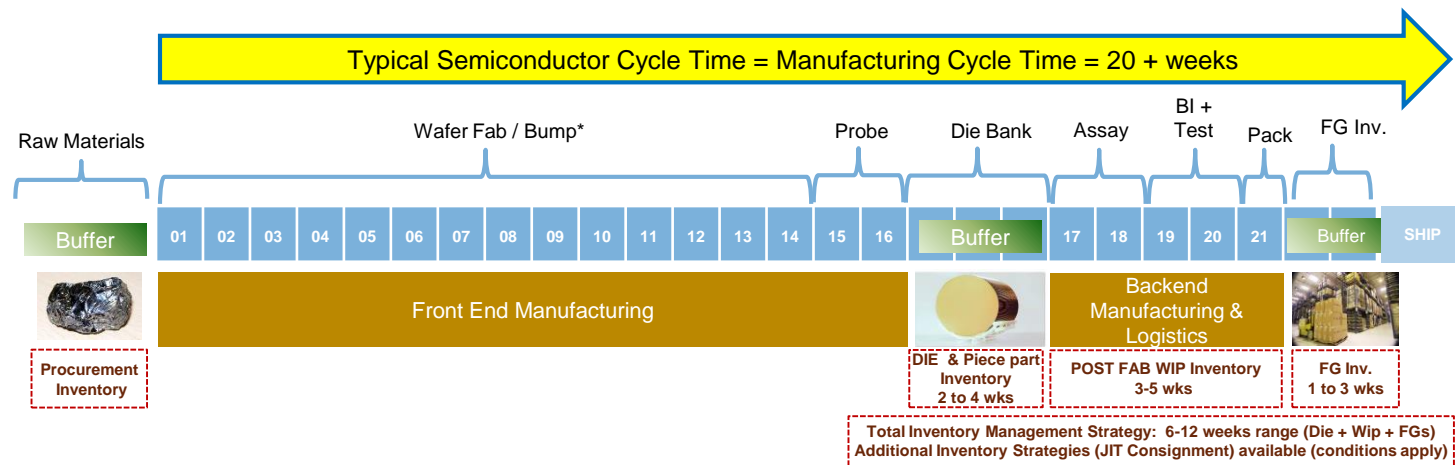


## Assures product delivery to customers

- Response process documentation internal/external use
- Assessment and response team initiation for product supply
- Information gathering hub
- Decision-making hub
- Product allocation
- Communication protocols for internal and external
- Information repository for communication and event responses

# NXP Die Buffer Strategy

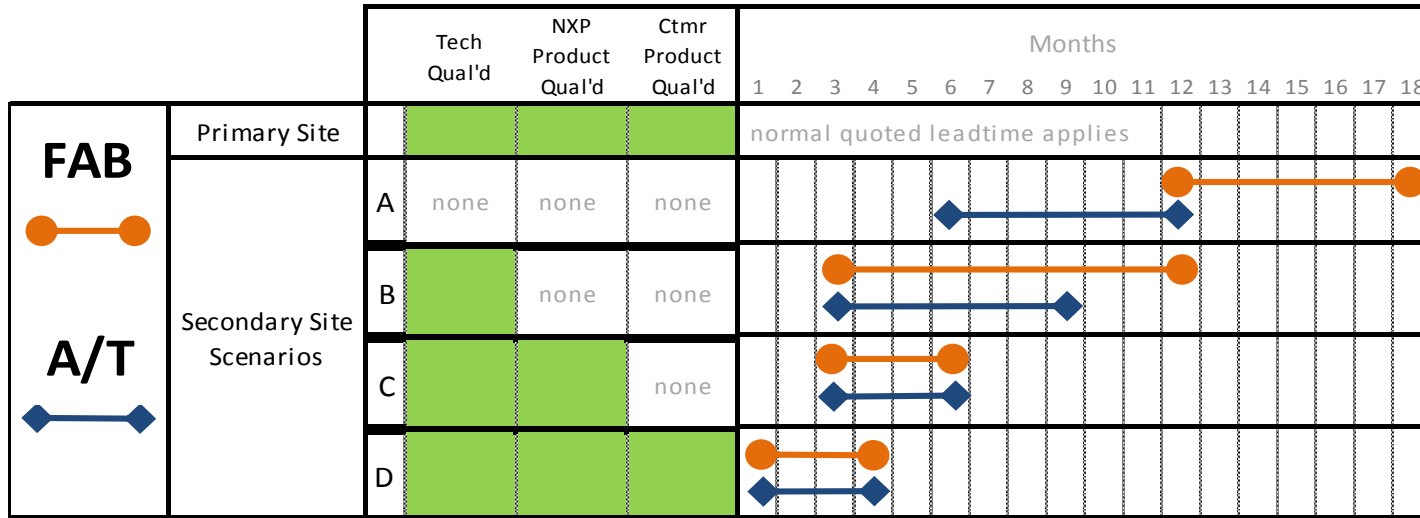
- Typical semiconductor cycle time from wafer start to finished good test out could be 20 – 26 weeks
- Die and Finished Goods buffers established based on forecasted run rates can help reduce customer order lead times to more manageable levels; typical automotive lead times are in the 8-14 week range
- Forecasts and order coverage (actual orders placed  $\geq$  LT) extremely important to help keep lead times lower; unexpected / un-forecasted increases can quickly diminish buffer levels, resulting in lead times extending to 16-20+ weeks



\* Certain technologies have significant layer count which could result in CT exceeding 26 weeks

High Volume Avg. Order Lead Times = 8-14 weeks

# NXP Dual Sourcing Strategy



NOTE: All leadtimes provided are general projections and may not include customer qualification timing

**Scenario A:** NXP has a single site qualified and in use, no existing secondary source and no plans for secondary source (FAB: 12-18 Mths, A/T: 6-12 Mths)

**Scenario B:** NXP has primary site qualified and has secondary site qualified on technology only (FAB: 3-12 Mths, A/T: 3-9 Mths)

**Scenario C:** NXP has primary site qualified and has secondary site qualified on technology and product (FAB & A/T: 3-6 Mths)

**Scenario D:** NXP has two sources qualified with NXP and Customer Product Qualified (FAB & A/T: Normal Leadtime 3-4 months)

A/T = Assembly and Test

# IT Business Continuity Plan



► **Information Technology BCP - Addresses the recovery of the NXP business critical data systems**

- Communication procedures for incident management
- Information on executing restoration procedures
- Process to initiate service restoration teams into motion
- Outlines coordination process for restoration of operations

# Global Procurement Business Continuity Plan



## ► Procurement continuity through a 4-tier risk management program

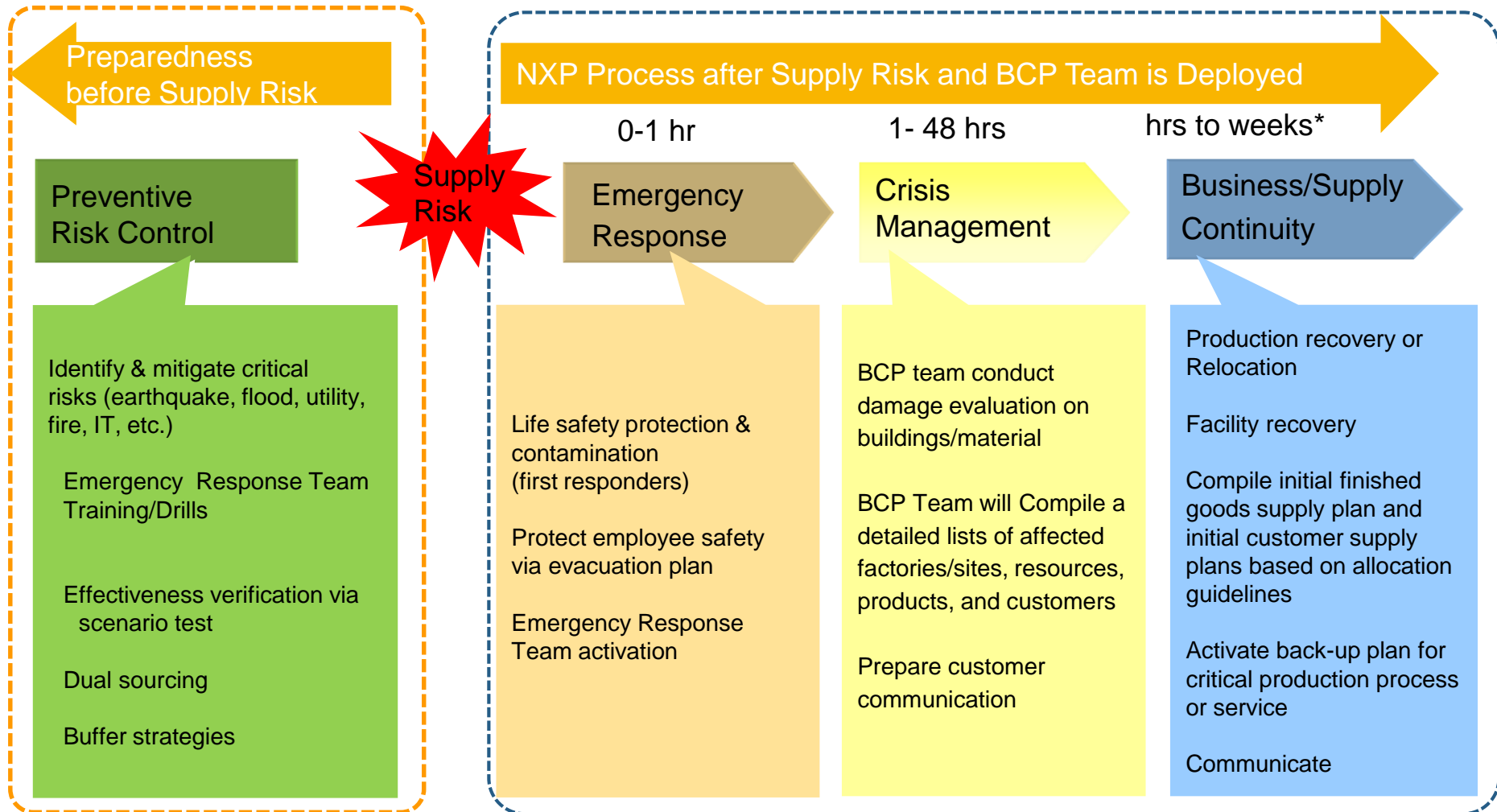
- **Crisis Management**
  - Timely impact assessment following disaster events
  - Proactively address supply continuity and potential NXP (personnel) impact
  - Mitigation actions taken collaboratively
- **Part level Risk Management**
  - Sole/Single/Multi sourcing per raw material
  - Sole/Single/Multi supplier Production Location
  - Mitigation strategy + priority depending on link to final product
- **Supplier Level Risk Management**
  - Financial-, Contractual-, Phase out-, and Geographical risk quantification
- **Supplier Business Continuity Management**
  - Assess supplier's business continuity maturity and rate this during Supplier Performance management cycles



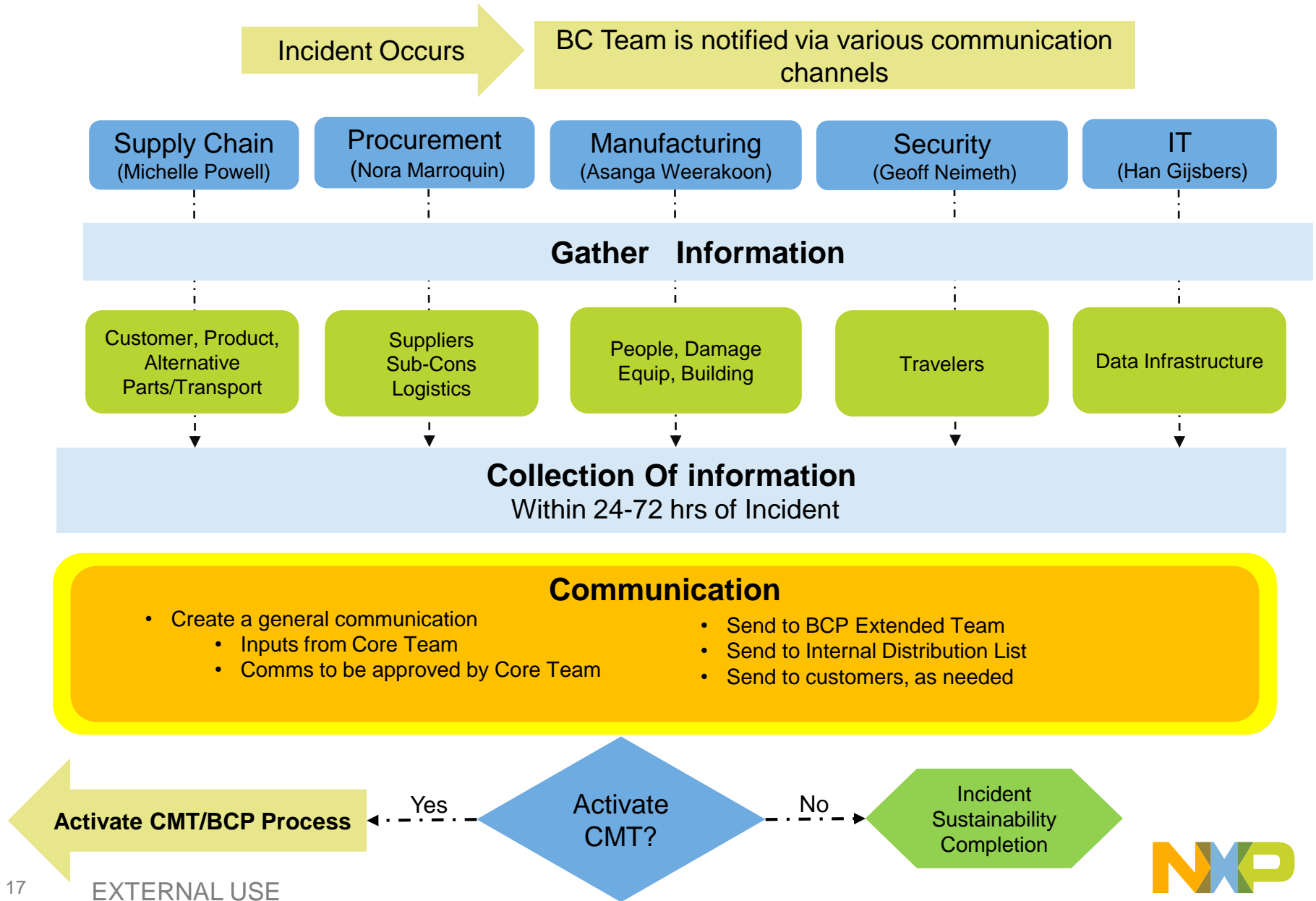
# 4-Tier Procurement Risk Management Program

	Supply Base Crisis Management	Supplier Level Risk	Part Level Risk	Supply continuity Risk
Description	<ul style="list-style-type: none"> <li>Timely impact assessment following disaster events</li> <li>Proactively address supply continuity and potential NXP (personnel) impact</li> <li>Mitigation actions taken collaboratively</li> </ul>	<ul style="list-style-type: none"> <li>Addresses viability of suppliers by assessing Financial, Contractual, Phase out, and Geographical risk</li> <li>Flexibility and ability to support NXP's global footprint in a global manner</li> <li>Drive sourcing strategy and make portfolio decisions</li> </ul>	<ul style="list-style-type: none"> <li>Sourcing risk &amp; Supplier production location risk</li> <li>Sole/Single/Multi</li> <li>Actions to mitigate/eliminate risk</li> </ul>	<ul style="list-style-type: none"> <li>Process to assess supplier's business continuity maturity</li> <li>Project teams addressing known sub tier risks</li> </ul>
Extend	<ul style="list-style-type: none"> <li>Event alerts evaluated on daily basis</li> <li>Multiple customer account manager requests answered on an annual basis</li> </ul>	Currently assessing all key, strategic and selected sustaining suppliers	<ul style="list-style-type: none"> <li>Managing sourcing and production location risk for all Front end and Backend materials</li> <li>Actively manually linking the Raw Material risk to final products, BU's, Customers, S&amp;OP and more.</li> </ul>	<p>All raw materials suppliers actively engaged in supplier rating system:</p> <ul style="list-style-type: none"> <li>Self assessment BCM survey</li> <li>Supplier performance rating for BCM maturity</li> </ul> <p>Also:</p> <ul style="list-style-type: none"> <li>BCM included in VDA audits</li> <li>BCM included in new supplier selection process</li> </ul>

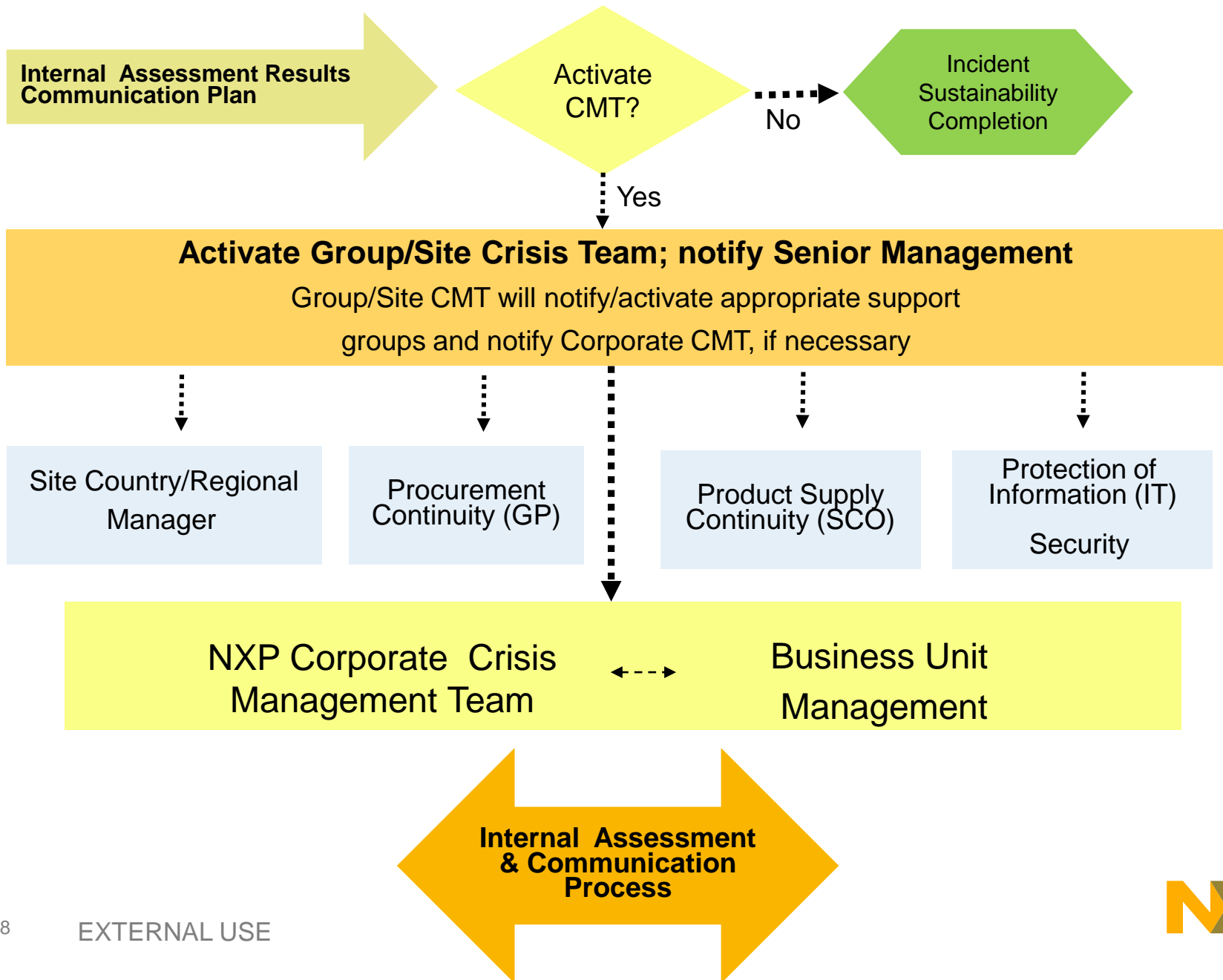
# Immediate Disaster Recovery Response Timeline



# Business Continuity Communication Flow



# Business Continuity and Crisis Management Escalation Tree



# NXP Corporate Business Continuity Team

**CMT Leader:** Senior EVP of NXP

**CMT Coordinators:** Senior Director of Sustainability and EHS  
Director, Environment, Health & Safety Operations

## **Members**

V.P. Manufacturing Front-end  
V.P. Manufacturing Back-end  
V.P. Communications & Public Relations  
V.P. Finance (CFO)  
V.P. Human Resources  
V.P. Information Technology  
V.P. Global Procurement  
V.P. Supply Chain (Manufacturing)  
Director Security  
Director Site Services (Facilities)



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