

AREVA Purchasing



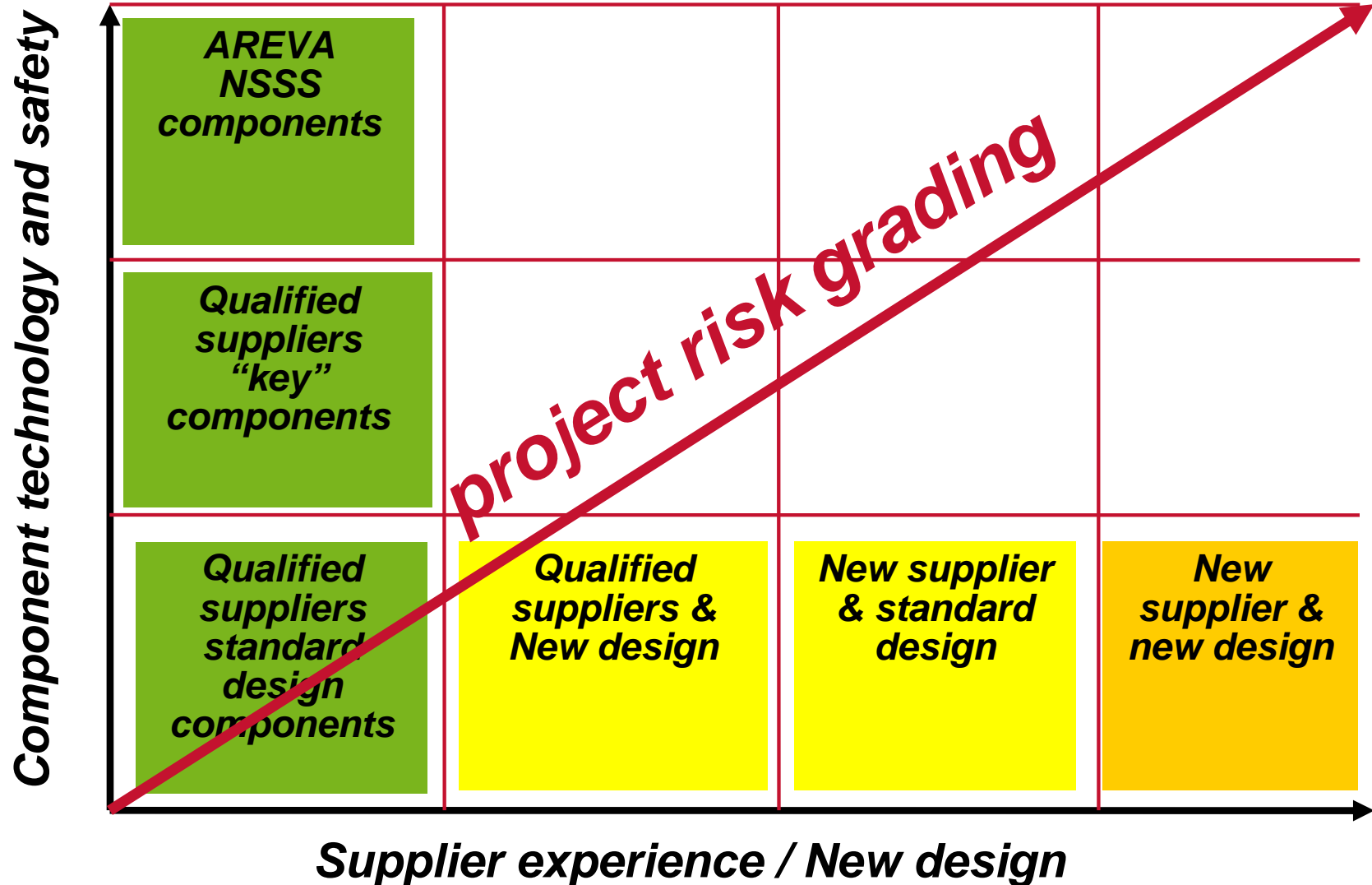
► **Supplier & Equipment Qualification Process**

◆ *...expanding our Supplier partner base...*

Laurent-Olivier COUDEYRE

Project Development & Sourcing Manager

Why a Qualification ? a need for project risk management



A graded approach for the Purchasing & Supply Chain strategy...

- ▶ According to the **safety grade of the component**, the Purchasing & Supply Chain strategy towards the suppliers market is graded :

Quality grading	Component status	QA requirements	HSE requirements to be considered
SAFETY GRADE (NUC)	Products and services safety related	ISO-9001 complemented by nuclear specific requirements (NSQ100)	Environmental program ISO14001 Health & Safety program (OH SAS 18001)
STANDARD GRADE (ISO)	Products and services non safety related but important for construction and/or operation	ISO-9001	
NOT CLASSIFIED (NC)	Other products and services	(ISO-9001 recommended)	

Potential scope of localization for Nuclear Power Plant



Easiest, less demanding for special qualification

- ▶ Earthworks & Foundations
- ▶ Concrete and rebar supply
- ▶ Intake and outfall construction
- ▶ Auxiliary buildings
- ▶ Substations
- ▶ Transmission lines
- ▶ Cranes
- ▶ Piping QC3
- ▶ Fire Fighting Equipment
- ▶ Cable trays

Minimum investment or time needed to qualify

- ▶ Pumps (non-primary)
- ▶ Valves
- ▶ Filters
- ▶ Vessels
- ▶ HVAC
- ▶ Pipe fabrication
- ▶ Motors
- ▶ Transformers
- ▶ MV & LV Switchgears
- ▶ Heat Exchanger
- ▶ Power Cable

Significant investment needed

- ▶ Fuel fabrication
- ▶ Spent fuel reprocessing
- ▶ High level waste storage
- ▶ Heavy forgings
- ▶ Reactor Pressure Vessel
- ▶ Steam Generator
- ▶ Polar Crane
- ▶ Safety & Operational I&C
- ▶ Main auxiliaries pumps
- ▶ Main Control Room
- ▶ Diesel Generators



**Generic list to be tailored to each country/project.
The level of localization is proportional to the size of the program**

Contracts with Technical Specifications and Quality Specifications

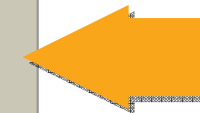


etc.
Piping
Vessels/Exchangers
Pumps
Valves

Table of Contents

Introduction

1. **Scope**
2. **Definitions**
3. **Documentation**
4. **Design**
5. **Materials**
6. **Manufacturing**
7. **Operability**
8. **Requirements for Auxiliary Systems, Venting, Drains, Integral Supports**



Quality Requirements

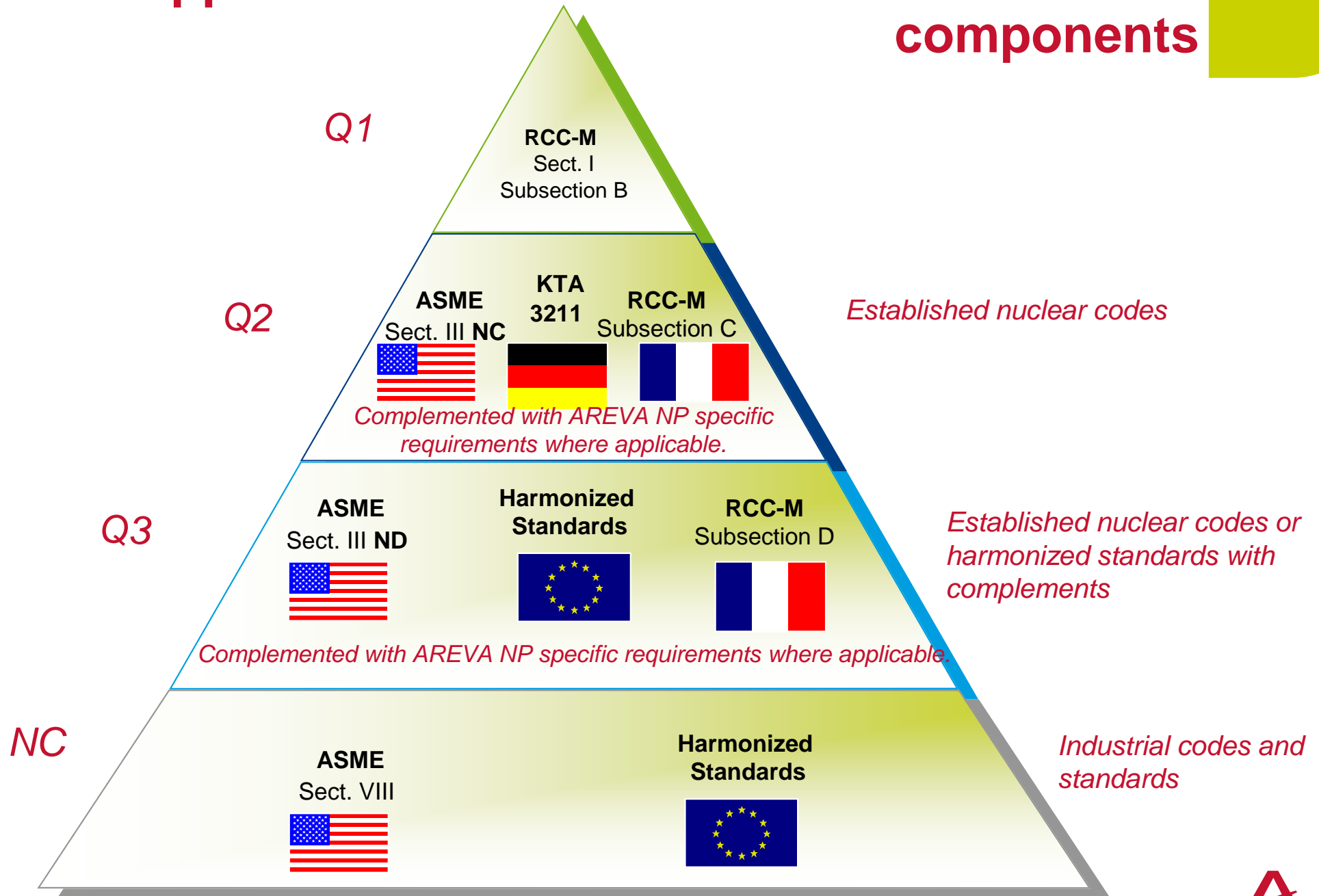
Grading according to Safety Class and National Regulations

- *Quality Management*
- *Documentation*
- *Inspection*

Contract with Terms and Conditions

- *Requisition*
- *Price*
- *Schedule...*

Applied Construction Codes for Mechanical components



Codes for mechanical components of EPR™ Nuclear Island



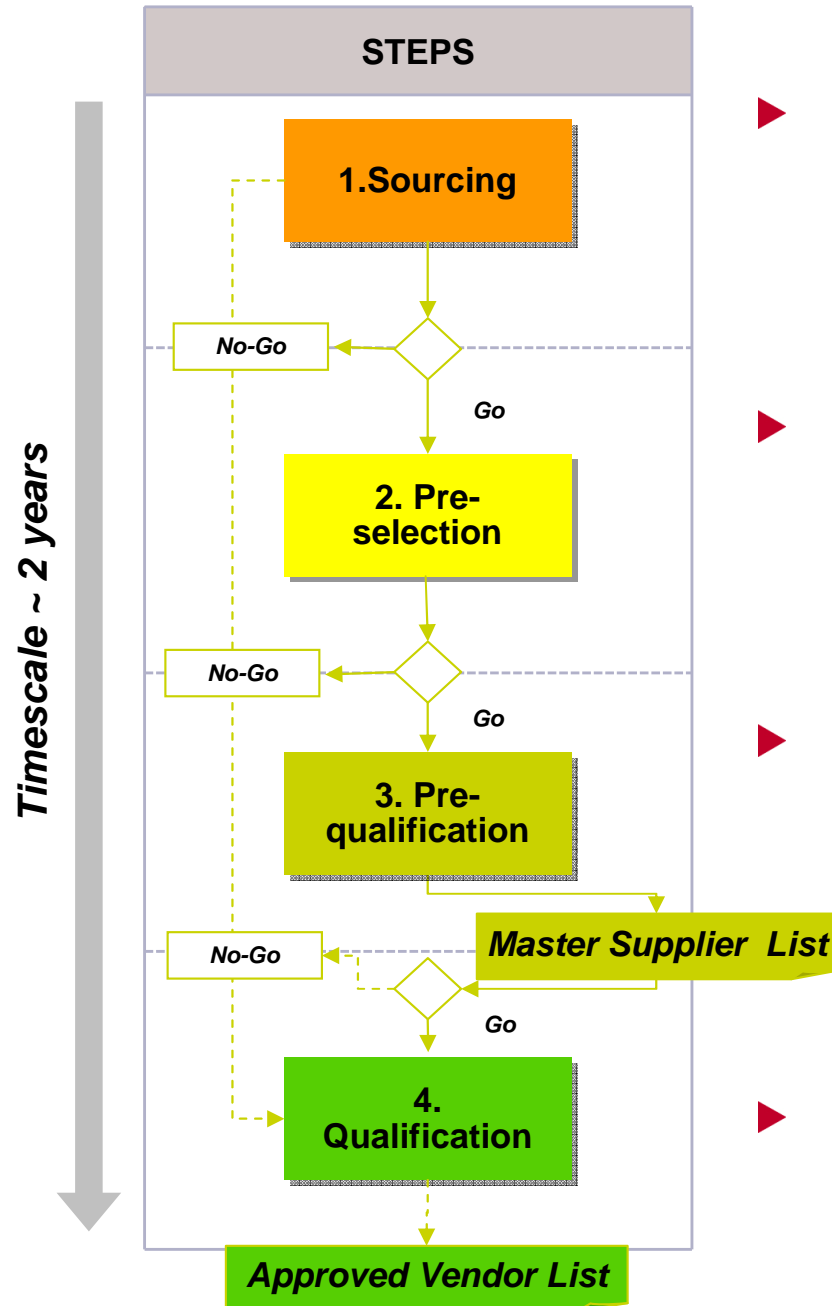
- ▶ **For the main primary system components (Class 1):**
 - ◆ **The first EPR™ units (OL3, FA3, TSN1&2) are RCCM
The US EPR design are ASME III in US**
 - ◆ **For Poland it will have to be agreed with both Client and Regulator**

- ▶ **For the majority of all other equipments (Class 2, 3 and Non Classified):**
 - ◆ **AREVA current practice is to open its specifications to the possible alternatives: ASME or RCCM or European Standards**

Sourcing in Poland



AREVA NP Supplier Qualification Process Description



► **Sourcing:**

- ◆ Request For Interest
- ◆ Supplier Pre Selection according to RFI's Feedback analysis

► **Pre selection:**

- ◆ Supplier Assessment/survey (Quality, design, manufacturing, project, purchasing ...)
- ◆ Readiness and ranking matrix (9 levels)

► **Pre Qualification:**

- ◆ Action Plan definition and follow up
- ◆ Product or process qualification tests
- ◆ Blank RFQ to confirm technical & cost competitiveness

► **Qualification:**

- ◆ Before contract, when the Qualification is satisfactory, approval of the Supplier (Approved Vendor List) prior to place the Order

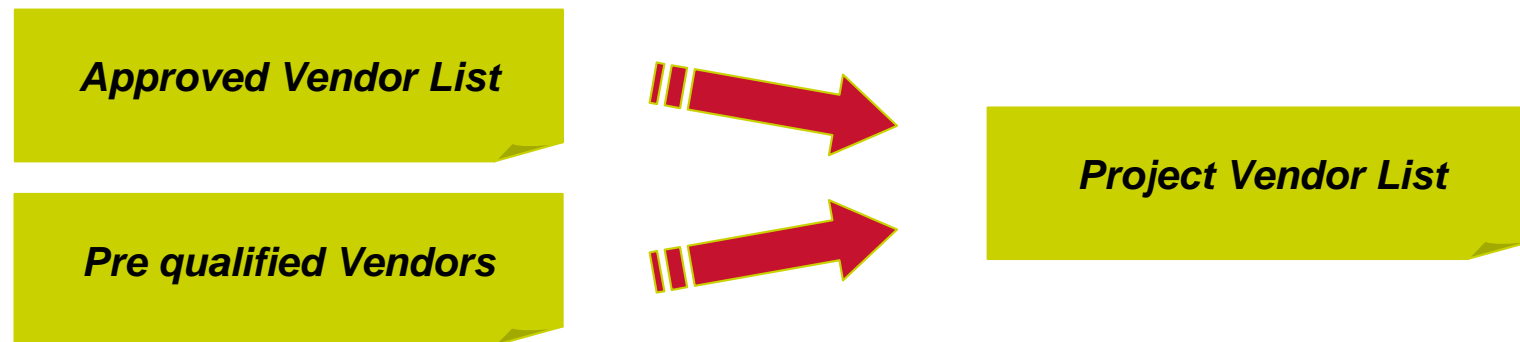
*Purchasing
lead*

*Quality
lead*

Sourcing Process & Interfaces

Project Vendor List

- ▶ For elaboration of a Project Vendor List AREVA based on available pool of:
 - ◆ qualified potential subcontractors already approved from AREVA
 - ◆ potential subcontractors investigated but not qualified yet by AREVA pre-qualified suppliers can be called upon for any EPR project worldwide



AREVA Qualification Process Description



▶ Criteria for the qualification of Suppliers

- ◆ Technical capabilities in design and engineering to achieve successfully the requirements for a specified scope of supply
- ◆ Quality management ability
- ◆ Project management capability
- ◆ Financial soundness and long term company stability
- ◆ Value charter

Areva Qualification Process Description

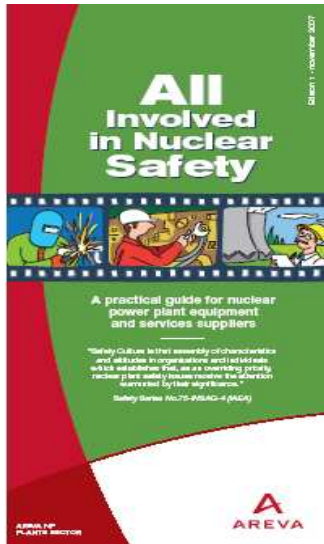
Lessons learned

► Success factors :

- ◆ General Management commitment
- ◆ Employees safety culture & mobilization
- ◆ Quality Assurance + Quality Control internal surveillance
- ◆ Management of Sub-contracts
- ◆ Management of non-conformance in trustworthy atmosphere
- ◆ Responsibilities & authority of the Supplier Project manager

**Supplier proactive participation during
the qualification process creates Customer Confidence**

A cooperative attitude, for a long-term relationship



AREVA offers support to the supplier during qualification process, e.g.:

- ◆ Materials provided for employees awareness & training
- ◆ Assessment with identification of improvement axis

AREVA Training Offer includes training programs to support the competencies management of AREVA partners

- ◆ Catalogue training sessions, performed in AREVA or partner's office
- ◆ Taylor-made training solutions as answer to specific needs
- ◆ A wide range of topics, for any trainee level



AREVA Training Offer Nuclear Learning Tour

► Objectives

- ◆ Acquire a global vision of nuclear energy
- ◆ Understand the energy challenges of today
- ◆ Explain & illustrate nuclear basics and reactor physics
- ◆ Understand the importance of nuclear industry

► Implementation

- ◆ Preliminary e-learning
- ◆ Interactive classroom modules
- ◆ Practical and guided exercises
- ◆ Operation demonstration with simulator
- ◆ Nuclear site visits
- ◆ Conferences by top-level experts



AREVA Training Offer Supplier Excellence Program

- ▶ **A training program dedicated to AREVA partners for**
 - ◆ **A better understanding of nuclear project specificities**
 - ◆ **A better understanding of AREVA requirements (Quality, Safety, Project)**
 - ◆ **An improvement of AREVA project performances**
 - ◆ **A long-term collaboration**

- ▶ **A “Fundamentals” program implemented since 2010**
 - ◆ **Based on concrete examples and constructive exchanges**
 - ◆ **Courses performed in AREVA premises or trainees’ workplace**
 - ◆ **Resulting from knowledge & experience developed for our own needs**



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AREVA has started to build a Polish supply chain for a new generation of EPR™

AREVA relies upon its Global Supply Chain
and develops Polish Partnerships

Mid 2010 Areva launched a specific Polish Supply Chain Programme to support EPR New Builds

- ▶ 129 companies registered on the Polish Master Supplier List
- ▶ 22 assessment visits performed
- ▶ 17 companies pre-qualified
- ▶ 1 MOU with a major supplier
- ▶ 1 company qualified Elektrobudowa as Tier 1
3 companies as Tier 2



Contact with AREVA Purchasing

Dedicated website
<http://suppliers.areva.com>

‘Meet the AREVA purchasers’