

IAEA Conference (CN-215)
HR Development for Nuclear
Power Programmes:
Building & Sustaining Capacity

12-16 May 2014

EDF Skills Management for Operations

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Global Coordination of E&T Players in France



International Institute of Nuclear Energy Education & Training



Academic Education

Academic institutions

Engineering and master degree level

Operator in nuclear education & training



Technician level

- Ministry of Education (Prof. High schools)
- IRI/ AFPI, etc...

Hands-on Training

Industrials

Leading companies in the nuclear industry

AREVA



EDF



GDF Suez



GIIN

French State departments

Higher education and research, Industry, Environment and Energy, Defense, and Foreign Affairs

Research, Safety, etc...

Safety Authorities



Technological Research



Waste management





How is EDF Nuclear Generation Aligning Training with Plant Performance?



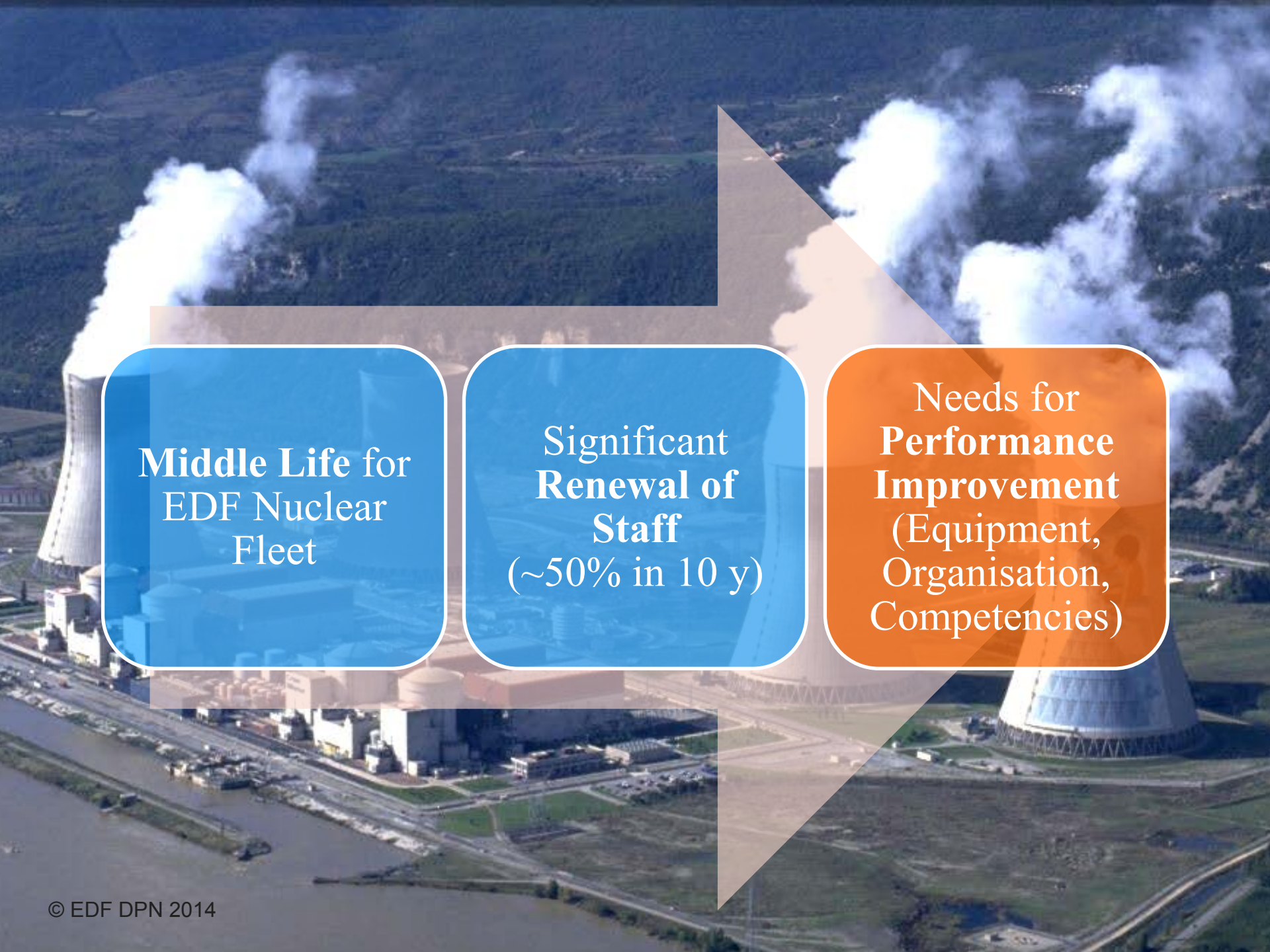
Context



EDF Nuclear Generation SAT model



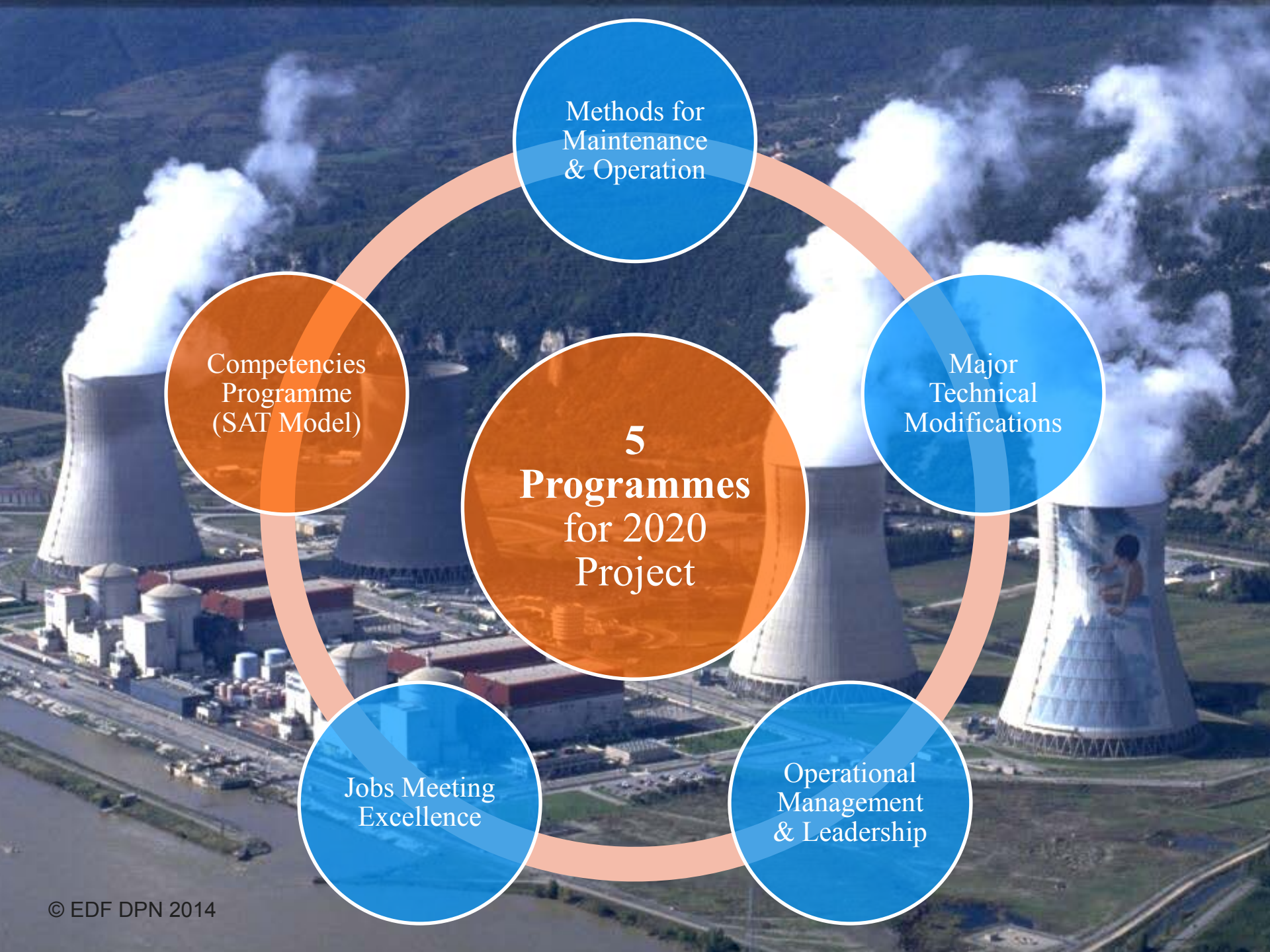
CONTEXT



**Middle Life for
EDF Nuclear
Fleet**

**Significant
Renewal of
Staff**
(~50% in 10 y)

**Needs for
Performance
Improvement**
(Equipment,
Organisation,
Competencies)





19,000
(2009)

22,000
(2013)



**Managers are engaged in
the management of
Competencies**

**Training Meets Plant
Performance Expectations**

**4 Key Elements
for Managing
Competencies**

**On-site Training Courses
are implemented at each
NPP**

**EDF Nuclear Generation
SAT Model is Meeting
International Standards**

- 
- Applying Training Process Standards

Since 1980

2011-2017

- Establishing EDF Nuclear Generation SAT Model

- Continuing the Journey Towards Plant Performance Improvement

2017+



EDF NUCLEAR GENERATION SAT MODEL



The diagram features a central orange circle with the text "Components for EDF Nuc. Gen. SAT Model". Four blue rounded rectangles are positioned around it, each with an arrow pointing towards the center. The rectangles are labeled "Organization & Methods", "Training Facilities & Tools", "Human Resources", and "Training Standards". The background is a photograph of a nuclear power plant with two large cooling towers emitting white steam, set against a blue sky with some clouds. The plant is reflected in a body of water in the foreground. The image is framed by dark, leafy branches in the top corners.

Organization
& Methods

Training
Facilities
& Tools

Training
Standards

Human
Resources

Components
for EDF
Nuc. Gen.
SAT Model

Training Standards

EDF Nuclear Generation Training
Strategy & Fundamentals for
Managing Competencies

Adaptation of
INPO ACAD02-001



1 - Management of Competencies

2 – Training Management for Performance Improvement

3 – Management of Training Processes & Resources

4 – Initial Training

5 – Continuing Training

6 – Training Implementation & Trainee Evaluation

7 – Training Effectiveness Evaluation



8 – Engagement of NPP's Personnel in Competencies

Organization & Methods

Site &
Corporate
Training
Committees

Joint
Training
Department



Standardized
Initial &
Continuing
Training
Programmes
for the entire
Fleet

Transfer of
Knowledge
(~35/y)

NPP's Training Committees

Corporate Training Committees

Level 3
Station

Level 4
Head-
Management

Level 2
Dept.

Corporate
Level 2 Job
Coordination

Level 1
Working
Team

Job Academy
Common
Knowledge

Job Academy
Specific KSA*

Continuing
Training

General
Employee
Training
Prog.(GET)

Corporate & On-
Site Technical
Training Prog.
(inc. OJT)

Corporate
Retraining
Courses

62 Training
Sessions in 2013

75 Training
Sessions in 2013

On-Site Training
Courses
(inc. JIT)

Training Facilities & Tools

Technical
Training
Workshop

Simulators
&
Mock-ups

Innovation



Technical Training Workshop at Golfech NPP



Technical Training Workshop at Golfech NPP



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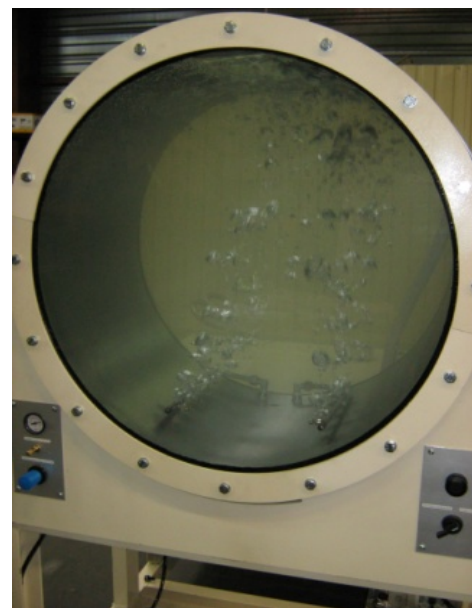
Posts Inside Reactor
Building

Posts Inside Nuclear
Fuel Building

CONTRACTORS



MCR OPERATORS



Ultrasonic Sensor Training Mock-up

« Making it simple
and practical ! »

Industrial Safety Equipment (General Employee Training Programme)



Serious Game

Operating the Entrance Door of PWR Reactor Building



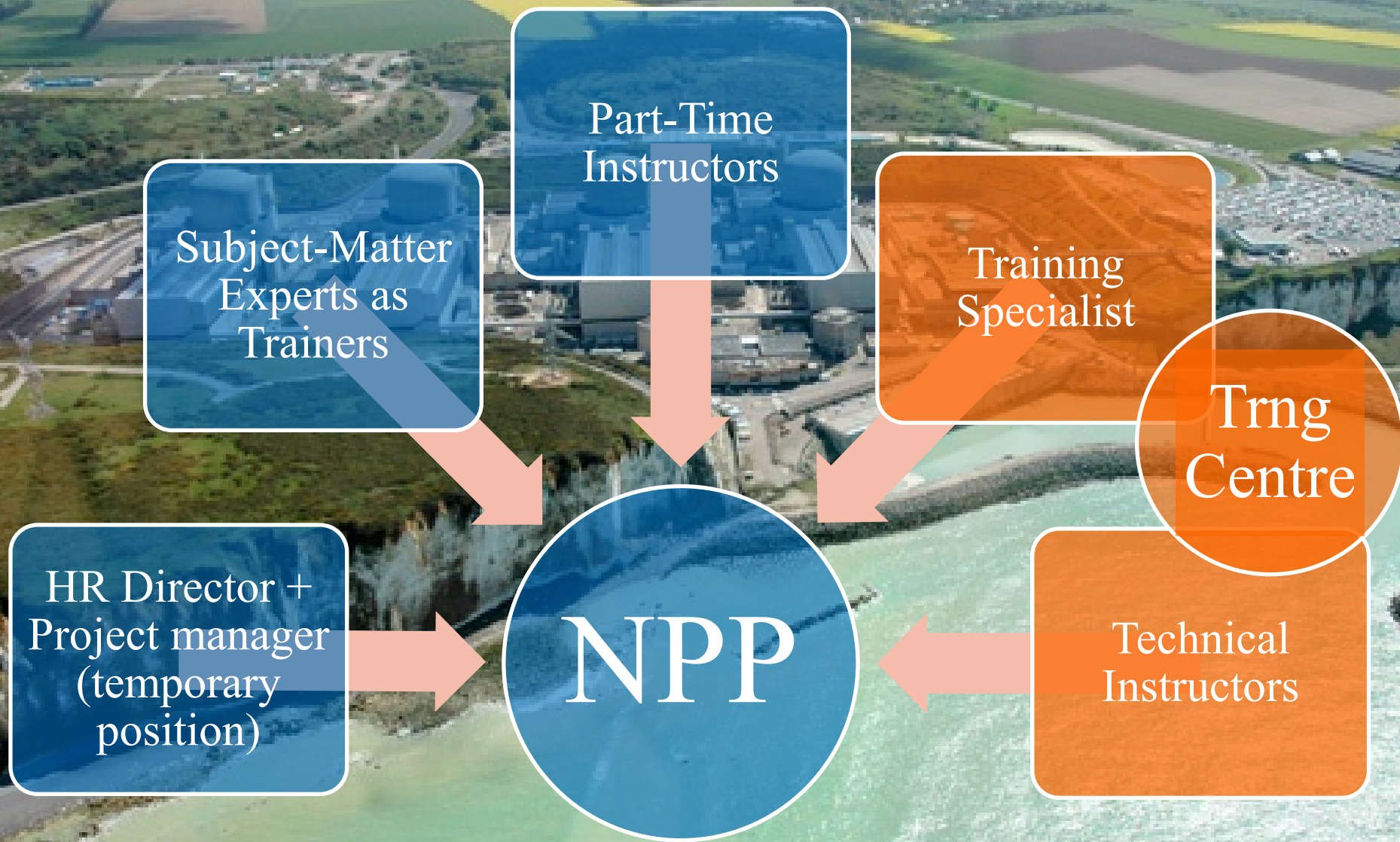
Human Resources



NPPs



Corporate Level



Director for
the SAT
Model

Skills
Management
Advisors

Job Leaders
as TTM*
experts

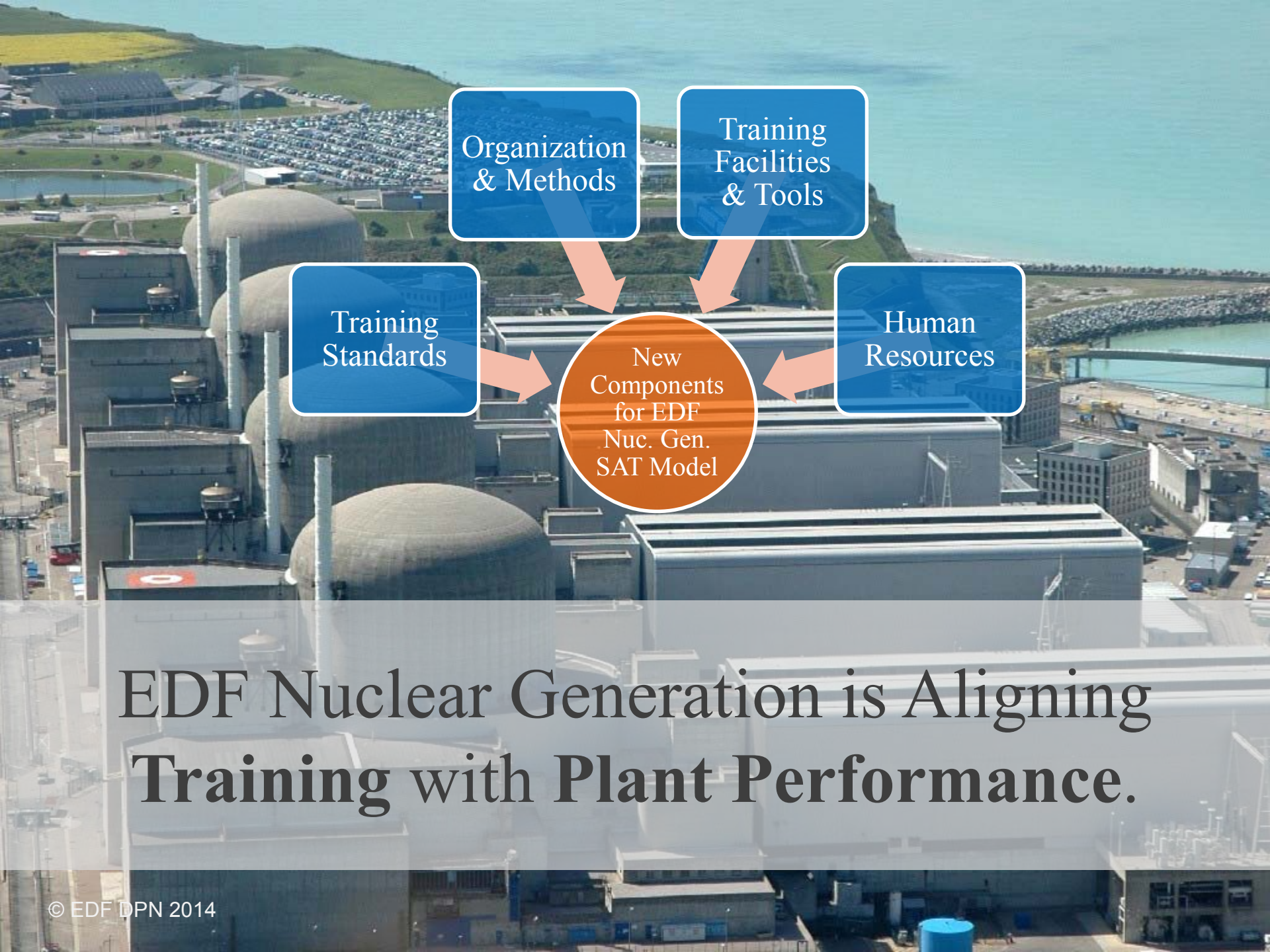
Corporate
Training
Specialist

Nuclear
Generation
Corporate
Level

Trng
Unit
**

* TTM : JTA based Task To Training Matrix

** UFPI : EDF Generation & Engineering Training Unit (UFPI)



Organization
& Methods

Training
Facilities
& Tools

Training
Standards

Human
Resources

New
Components
for EDF
Nuc. Gen.
SAT Model

EDF Nuclear Generation is Aligning
Training with Plant Performance.

Special French Side-Event

NUCLEAR EDUCATION & TRAINING IN FRANCE & SUPPORT TO NEWCOMER AND EXPANDING COUNTRIES

Wednesday, 14 May 2014 from 17:30 to 19:00

IAEA VIC, C Building, Board Room C, 4th floor

Programme:

Chair: **Ms. Karen Daifuku**

Introduction: **H.E. Ms. Marion Paradas**, Permanent Representative of France at IAEA

Featuring: **Mr. Yves Fanjas**, International Institute of Nuclear Energy

With the participation of French HR Experts:

Academia & Research:	Mr. François Foulon (CEA/INSTN)
Safety:	Mr. Didier Louvat (ENSTTI)
Owner/operator:	Mr. Jean-Luc His (EDF)
Nuclear reactors, fuel, & services:	Mr. Xavier Perrette (AREVA)
Waste agency:	Mr. Patrice Voizard (Andra)

Reception in the foyer, outside Board Room C, 4th floor