

Knowledge Management (KM) Risk Assessment of Critical Knowledge Loss in an Organization with Expanding Nuclear Power Program

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OUTLINE OF PRESENTATION

- **PAEC and its Expanding Nuclear Power Program**
- **Risk and Knowledge Loss Risk Assessment**
- **Magnitude of Knowledge Loss Risk Challenge for PAEC**
- **KM Risk Mitigation Strategies Adopted by PAEC**
- **Questions**



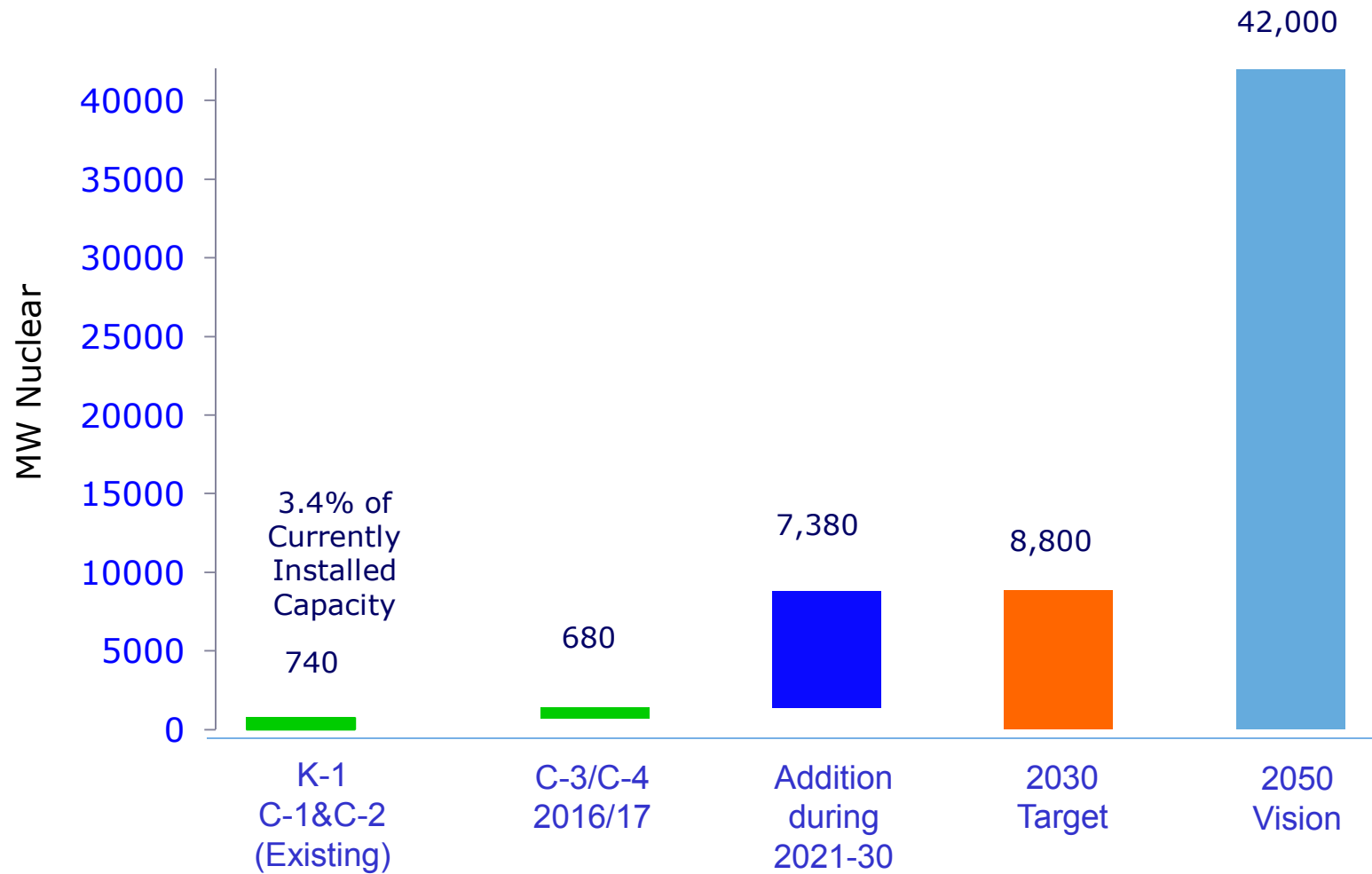
PAEC -- Quick Facts

- **PAEC is the largest S&T organization in Pakistan**
- **PAEC manages portfolio of Nuclear Energy applications for national development and growth**
- **PAEC owns & operates the following NPPs in Pakistan**

Location	Status	Setup Name	Type	MWe	Approved Manpower	Commercial Operation
Karachi	Operational	K-1	PHWR	137	1530	1972
Chashma	Operational	C-1	PWR	325	832	2000
Chashma	Operational	C-2	PWR	340	741	2011
Chashma	Under Construction	C-3	PWR	340	–	2016
Chashma	Under Construction	C-4	PWR	340	–	2017



Pakistan's Nuclear Power Vision 2050

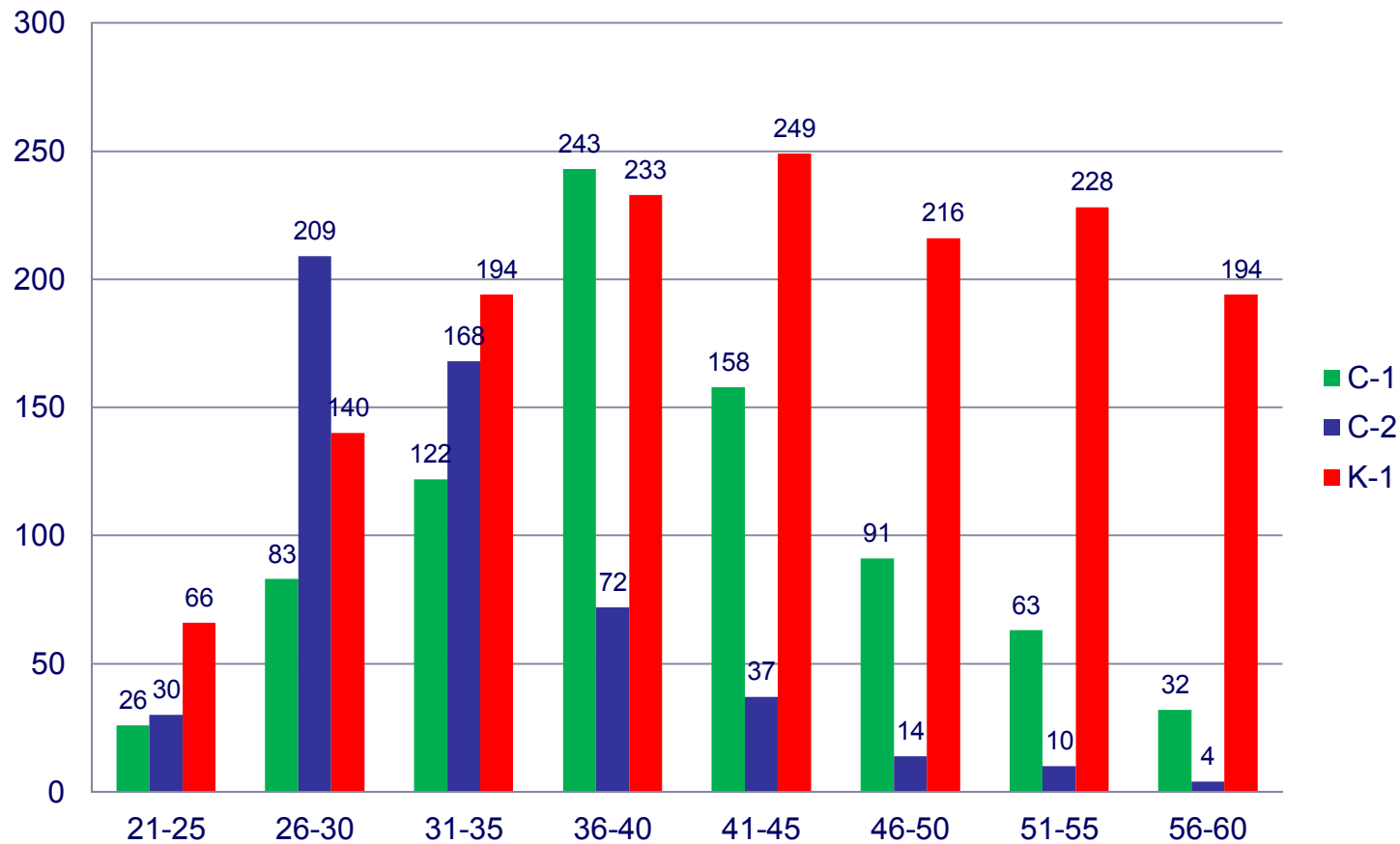


RISK and KM Risk Assessment of Critical Knowledge Loss

- **Risk is defined in the Project Management Body of Knowledge (PMBOK,2004) as an event or unclear situation that will influence the timing, cost and quality of a project**
- **This study considers attrition due to retirements of its workforce -- A risk for the organization as it has implications of loss of knowledge for the organization and thereby on its quality and output.**
- **This study assesses the magnitude of the anticipated Risk of Knowledge Loss in three Operational NPPs namely CNPGS (C-1 & C-2) and K-1 based on the factor of Time until Retirement**

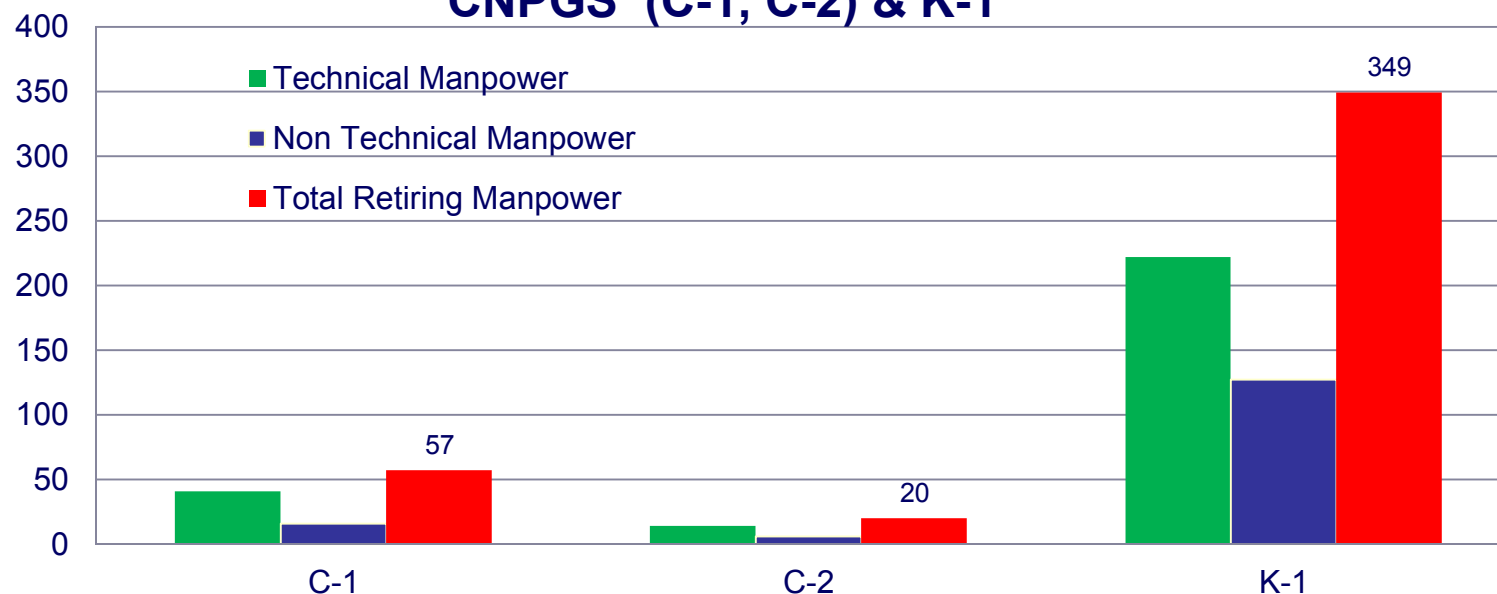


Age Wise Distribution of Manpower in CNPGS (C-1, C-2) & K-1



Workforce Attrition Challenge

Cumulative Retirements over 8 years in CNPGS (C-1, C-2) & K-1

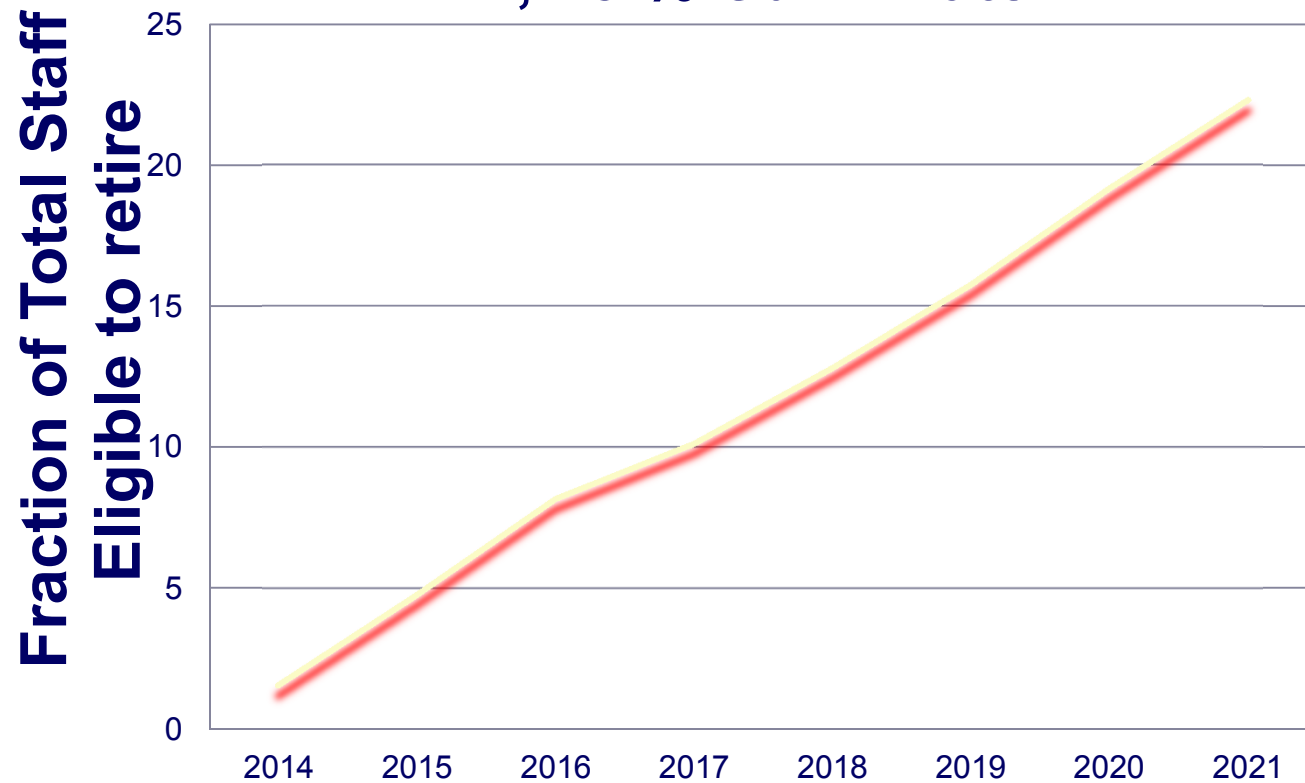


NPP Name	Present Strength	Approved Strength	Ave. Age in (yrs)	%age Attrition over 8 Years	Magnitude of Risk
K-1	1529	1530	43	23	High
C-1	820	832	38	07	Low- Med
C-2	545	741	33	04	Low



K-1: Case of High Attrition Challenge

Potential Cumulative Retirements K-1, 23 % Cum. Rate



PAEC's Strategy for Managing Critical Knowledge Loss

- **Workforce planning**
 - *What are our needs and when to fill?*
- ***Adapting TVA's Tool to Identify the Positions / persons holding Critical Knowledge***
- **Mitigate Knowledge Loss by Capturing and transferring the knowledge)**
 - **Documenting and Codification**
 - **Education & Training**
 - **Coaching and Mentoring**
 - **Extending the Contract of Experts**
 - **Phased retirement plans**



QUESTIONS ?

THANK YOU!

