



## **NCS Implementation Programs**

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**Key Features of the NNL Preston  
Plant Modification Proposal Process**

## When & Why Is a Plant Modification Proposal (PMP) Raised ?

***Prior to ANY Modification (Engineering or Operational)  
Unless it is a Like-for-Like Replacement***

**OBJECTIVES OF PMP** – Ensures that Proposals Are:

1. Categorised for Impact on Safety
2. Explicit about the Potential Hazards & Risks, along with Required Controls
3. Documented, Assessed and Authorized at the Appropriate Level
- 4. Implemented Correctly**



## PMP Safety Categorisation

- From Safety Perspective, Required to Answer a Series of Questions as “Yes” or “No” *{Pertaining to All Aspects of Safety}*
- **Could Installation or Operation of the Modification Involve:** *{Some of Those Relevant to Criticality Safety .... }*
  - Receipt of Uranium in Excess of 5.0 w/o  $^{235}\text{U}$  Enrichment ?
  - Need for New / Changed Criticality Clearance Certificate ?
  - Changes to Items with Safety Functions ?
  - **RECENT ADDITION** – An Increase in the Rate of Accumulation of Uranium within Processes and Systems, including Ventilation Systems / Scrubbers ?
- If All Are Answered “No”, results in a Category D PMP
- If Some are Answered “Yes”, (Typically) Results in **A MINIMUM OF** a Category C PMP (or Potentially Higher Category A / B, Depending upon Question and Degree of Significance of Risk)



# Implications of PMP Safety Categorisation



**Document Length  
& Stages**



**Cat C or Above – Peer Review**  
*{Includes Plant Manager,  
Engineer, Criticality Specialist}*



**Cat C or Above –  
Further Internal Review**



**Cat B or Above –  
Enhanced Regulatory Review**



## Some Key Sections of PMP ...



**Engineering Substantiation**  
{How Know that Engineering Will  
Perform Safety Function ?}



**Training  
Requirements**



**Commissioning Requirements**



**Review Period**

## All Documents / Other Actions Captured ...

		When Required				Details	Person Responsible	Initials / Date
5	Criticality documents (CCC, UMCAF etc) <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6a	Category 1 or 2 drawings -marked up drawing to Design office for modification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6b	Category 1 or 2 drawings -marked up drawing to ECC for emergency use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6c	Amended & approved Category 1 or 2 drawing to ECC for emergency use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
7	Other drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
8	Civil assets register	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
9	Design assessment report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
10	Engineering justification report (SSI 917) <sup>(7)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
11	Engineering schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
12	PUWER Risk Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
13	Cause & effect diagram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
14	Software documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
15	Trip / alarm / control schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
16	ICL (Installation Check List)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
17	Emergency instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
18	Operating instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

**Only Authorised to Start Phase Once Plant Manager (or Nominee) has Signed PMP to Signify That All Phase Requirements Have Been Completed**

**Columns: (1) – Before Installation, (2) Before Live Commissioning / Testing, (3) Before Start of Operation, (4) After Start of Operation**

