



# D&D Decision Model and Mobile Application for Selection of Fixative, Strippable Coating, and Decontamination Gel Products

Meilyn Planas (DOE Fellow), Applied Research Center, Florida International University

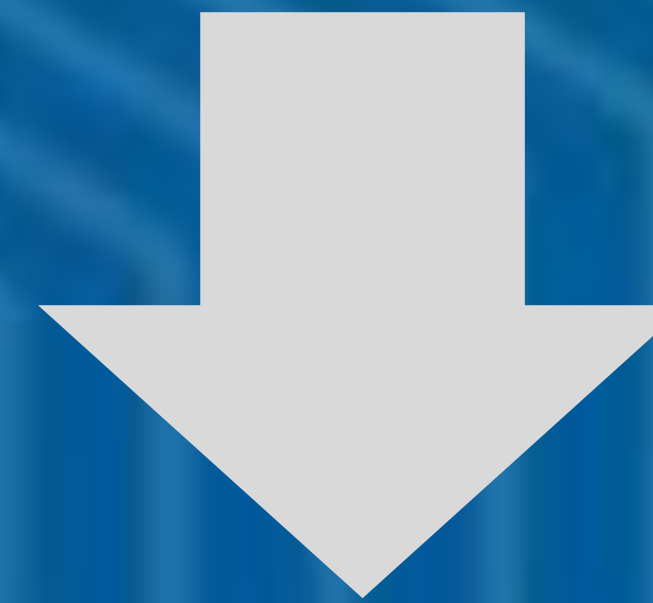
## Background

- Deactivation and decommissioning (D&D) is the process of taking an active/excess/abandoned facility to a final disposition end state
- D&D presents unique hazards that must be addressed from a safety, programmatic, environmental, and technological standpoint
- This definition is especially applicable to Savannah River Site's 235-F facility
- The facility was constructed in the 1950's as part of the weapons complex materials production and fabrication
- The most significant quantities of residual contamination remaining in 235-F building is in the form of Plutonium-238

## Purpose

- A **Decision Model** was created using MatLab to work hand-in-hand with a product list containing commercially available D&D products
- This model was created to further enhance and accelerate the decontamination process
- It is envisioned that D&D engineers will be able to use this Decision Model in the field via a mobile device
- It allows the user to select four inputs to match their situation
- The model searches the database and returns the products that fit the criteria selected by the user
- This Decision Model will be made available in a **web-based application** and as a **mobile application** to ensure end users can access it when needed

Strippable	Fixative	Gel
DECON PEEL 5201 Halogen Free	CC FIX	DECON GEL 1101
DECON PEEL 2640	CC FIX LV	DECON GEL 1102
DECON KLEAN 5850	CC WET	DECON GEL 1108
DECON PEEL NUCLEAR 2050	CC EPOXY 609	DECON GEL 1128 Spary
DECON PEEL Chemclean 5900	CC T 207	DECON GEL 1120 Spray
DECON PASTE 2510	CC PS 413	DECON GEL 1121 Spray
CC STRIP	POLYMERIC BARRIER SYSTEM	DECON GEL PRO (new)
Stripcoat TLC Free	RUST DOCTOR	ARGONNE SUPERGEL
ALARA 1146	Polysield SS-100	
ISOLOCK-300	Polysield HT	
RADBLOCK	Polyurea Special Protective Coating (Envirolastic AR 425)	
ORION	ArmorSeal 650 SL N (Nuclear)	
	MACROPROXY 646 N (Nuclear)	
	Dura Seal 400	
	Soil Sement	
	SAFEGARD CC	
	QUICK DECON	
	ISOFIX	
	Waste Lock 770	
	ISOFIX	



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Radiation:

Surface:

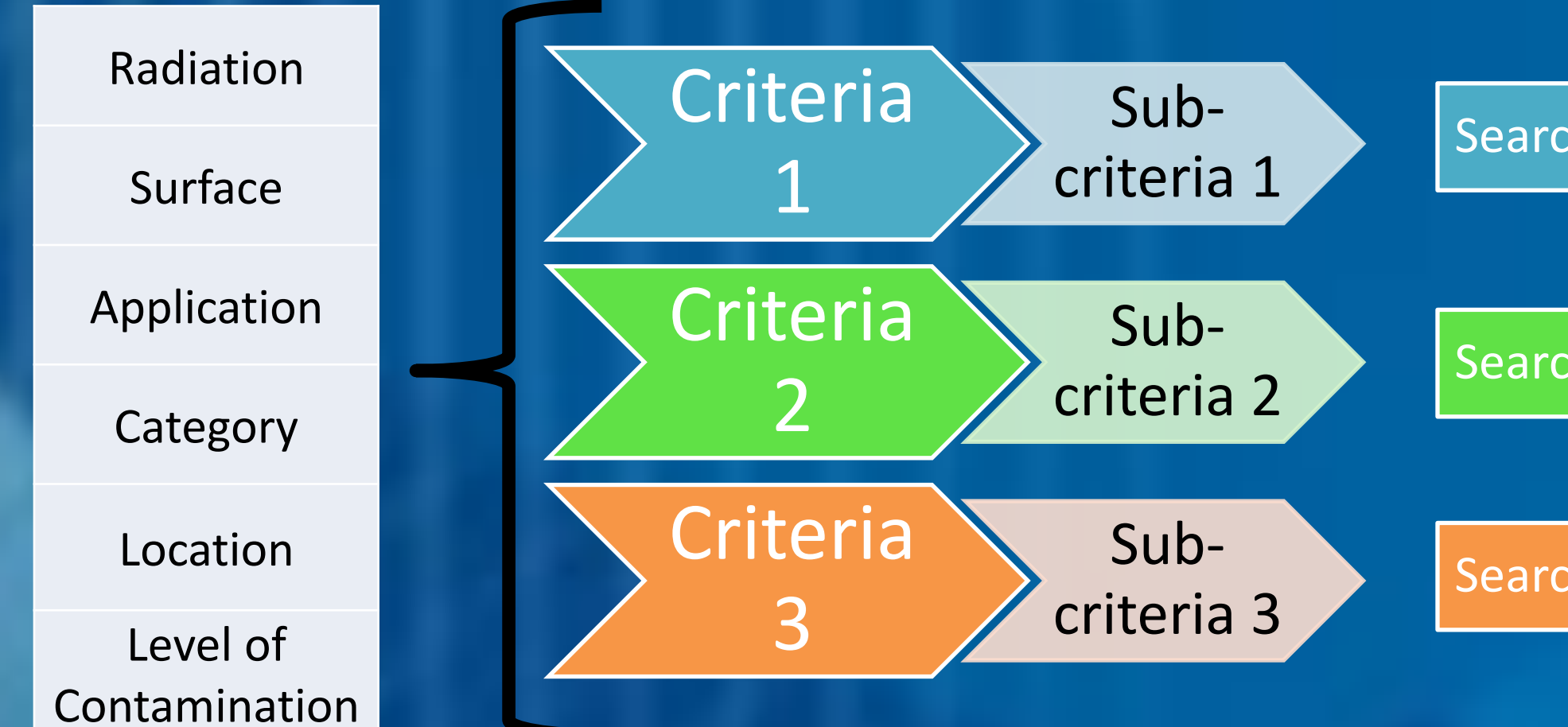
Application:

Category:

Product Name	Manufacturer	Category	Application	Surface	Location	Level of Contamination	Subsystem
1 DECON PEEL 5201 Halogen Free	Prevents contamination	General Chem ...	Strippable	Human or rem..._alphabetag...	Main use are o...	Floors...	Decon... Nuclear Equi...
2 DECON PEEL 2640 (a neutral pH version of 5900)	Heavy D...	General Chem ...	Water remova...	Use for mercury... This coating ca...	Concrete, Glass...	Floors...	It can ... Used to imm...
3 DECON KLEAN 5850		General Chem ...	Strippable			Floors...	
4 DECON PEEL NUCLEAR 2050		General Chem ...	Strippable			Floors...	
5 DECON PEEL Chemclean 5900		General Chem ...	Strippable			Floors...	
6 DECON PASTE 2510		General Chem ...	Strippable			Floors...	
7 CC FIX		InstaCote, Inc.	Fixative			Any pl...	CC Fix ... Designed for
8 CC FIX LV		InstaCote, Inc.	Fixative			Hot Ce...	CC Fix ... Designed for
9 CC WET (use with CC Fix) first of a two step approach.	(D)...	InstaCote, Inc.	Fixative (Water ...				CC We... Recommend
10 CC STRIP		InstaCote, Inc.	Strippable			Beryllium	CC Stri... To decontan
11 CC EPOXY 609 (Pipe Stabilizer)		InstaCote, Inc.	Fixative			Piping...	CC Epo... CC Epoxy is ...
12 CC T 207 (Sludge Stabilization, turns the sludge in to a "fir...		InstaCote, Inc.	Fixative			N/A	CC T 2... Stabilized na
13 CC PS 413 (Pipe Stabilizer)		InstaCote, Inc.	Fixative			Internal volume... Pione...	CC PS ... Designed for



Desktop



## Methodology

- The MatLab code recognizes what position in the text box is selected and then this input is converted to the corresponding string
- The string is then compared with the information in the product list in the specified column in order to reduce processing time
- Then the products that contain the string inputted are displayed on the table and are separated by category.
- The web-based version of the model will receive three specified criteria and sub-criteria from the user and update the table with products that fit each criteria

## Future Scope of Work

- A web-based version of this Decision Model is under way and will be set up on the D&D KM-IT platform
- There will be two versions of this mobile application: for devices with internet connection and for those that do not have internet connection
- This will ensure end users have access to the Decision application at any time or place during the D&D process
- A mobile version of the model will also be developed in the near future

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