NUREG-1921-Based Event Tree for Loss of Habitability (Ideal3) (9/4/2013)

Fire in MCR	Abandon?	Transfer while in MCR	Local Action #1	Local Action #2	Status	Probability (Given Fire)	Comment
Fire	1.00E+00	9.80E-01	9.60E-01	9.60E-01	OK	9.03E-01	Success via Timely Abandonment, Transfer & Remote Operation
				4.00E-02	CD	3.76E-02	Failed Despite Successful Transfer, Since Action 2 Unsuccessful
			4.00E-02		CD	3.92E-02	Failed Despite Successful Transfer, Since Action 1 Unsuccessful
		2.00E-02			CD	2.00E-02	Failed Transfer, no Opportunity for "Remote" Operation
	0.00E+00				CD	0.00E+00	Wrong Decision, MCR Fire Forces Abandonment with no Opportunity for "Remote" Operation
					Sum =	9.68E-02	
Decision Tree	N/A	EXCR	ASD	ASD	NOTE: ASD only provides for "implicit" distinction between "remote" actions at panel vs. at component (via timing, complexity, etc.)		

Scenario: Unsuppressable fire in MCR. Operators decide abandonment is warranted and take actions to transfer "remotely;" two independent ASD actions at separate "local" components.
Abandonment, transfer and "remote" operations can each be accomplished in > 30 min. All actions are proceduralized, have received extensive training, and require minimal coordination, and, even though taken "locally," assumed complexity is minimal.

Assumptions:
Decision to abandon is now correct 100% of the time.
Transfer is effectively just a "one-action" activity (even if requiring multiple "sub-actions").
All relevant time margins are at least 100%.
Decision Path for EXCR Tree (Fig 5-4):
- D22 - No
- D26 - Yes
- D27 - Yes
- D33 - No
- D34 - No
- From Lookup Table X, HEP = 0.02

Decision Path for ASD (Fig 5-5), assumed same for each local action:
- D40 - Yes
- D41 - Yes
- D42 - Yes
- D43 - Yes
- D44 - Yes
- D49 - No
- D50 - No
- From Lookup Table AG, HEP = 0.04

Result from this scenario is a total HEP for failure to successfully shutdown (i.e., avoid CD) due to loss of habitability = 0.0968
Depending on the associated CCDP for this scenario, the joint HEP-CCDP = 0.0968 x CCDP.