Fax
1/12/2000

To: Sri Kheriha (208) 526-9254

From: Glenn Kelly (801) 415-1075

Subject: Corrected FTs + ETs for LOSP

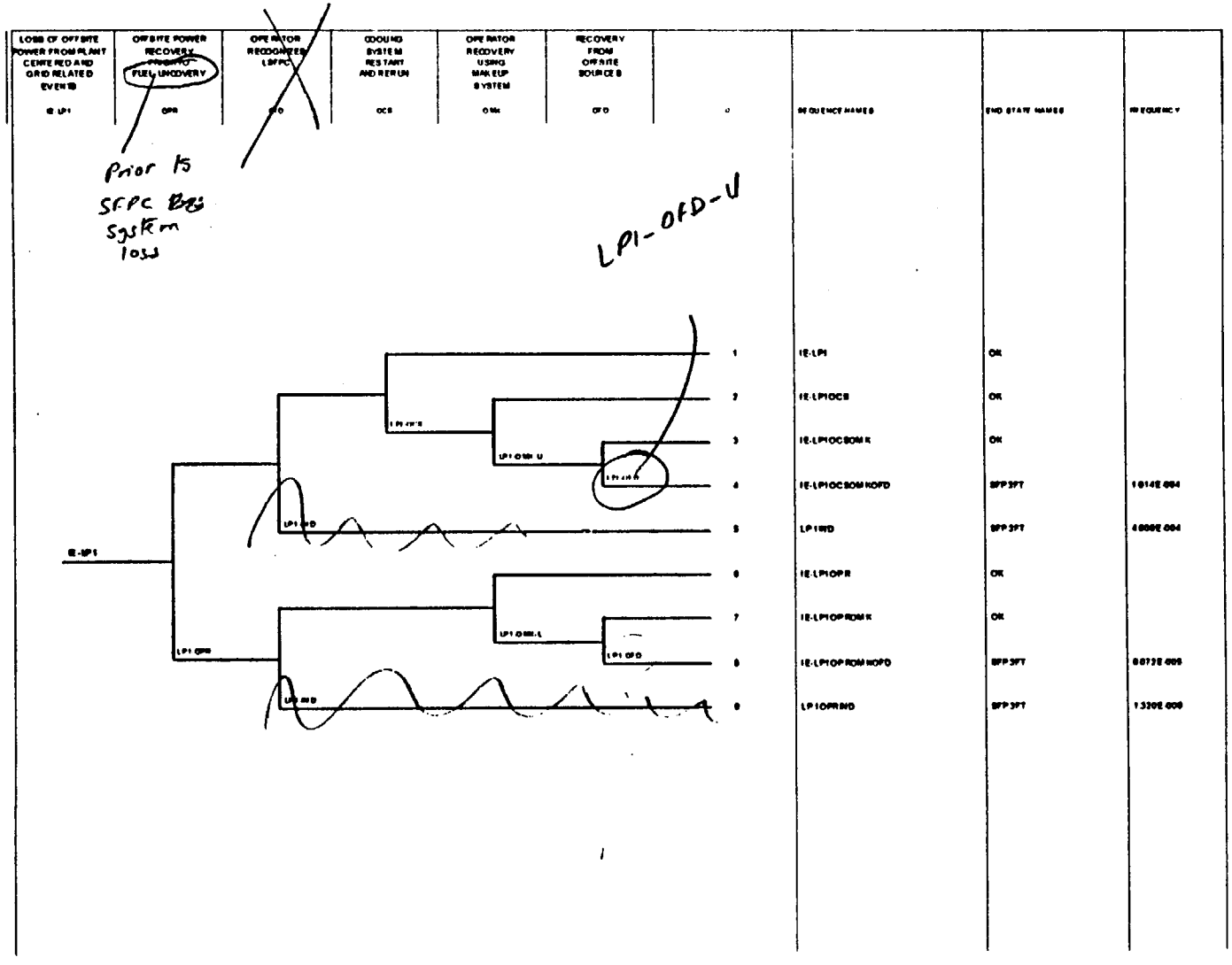
Please call Mike Cheoh if ?s. (801) 415-8380

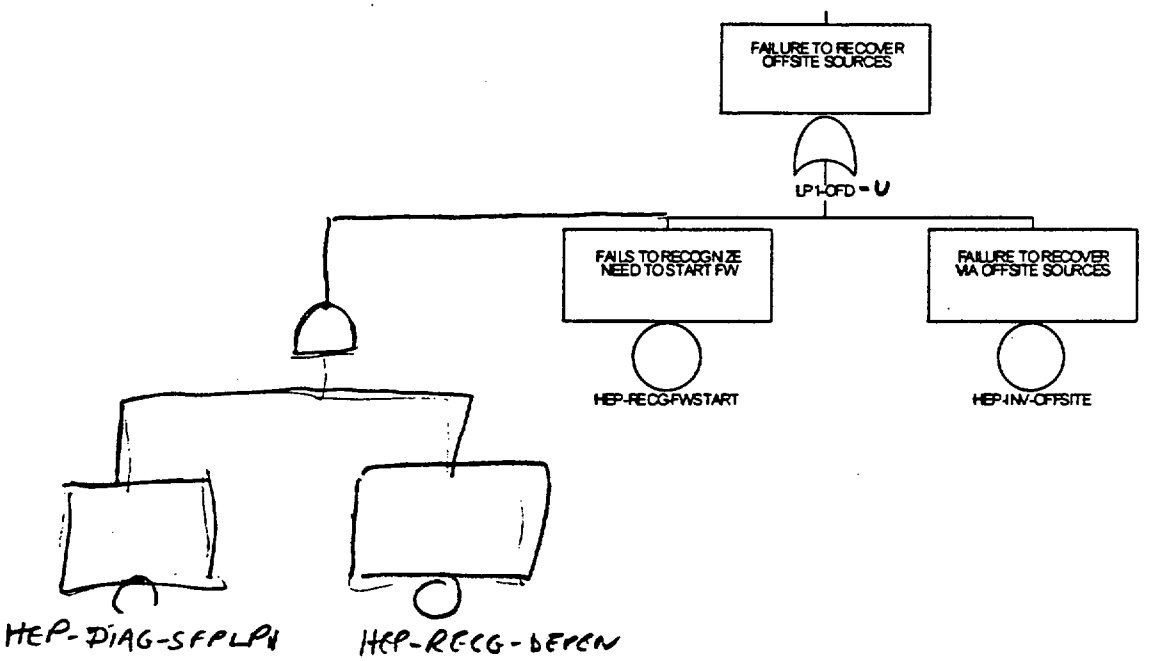
Fax # (208) 526-2930

11 pages + cover

4106

Figure 5a. Plant-centered and grid related events loss of offsite power event tree (~~Sensitivity case~~)





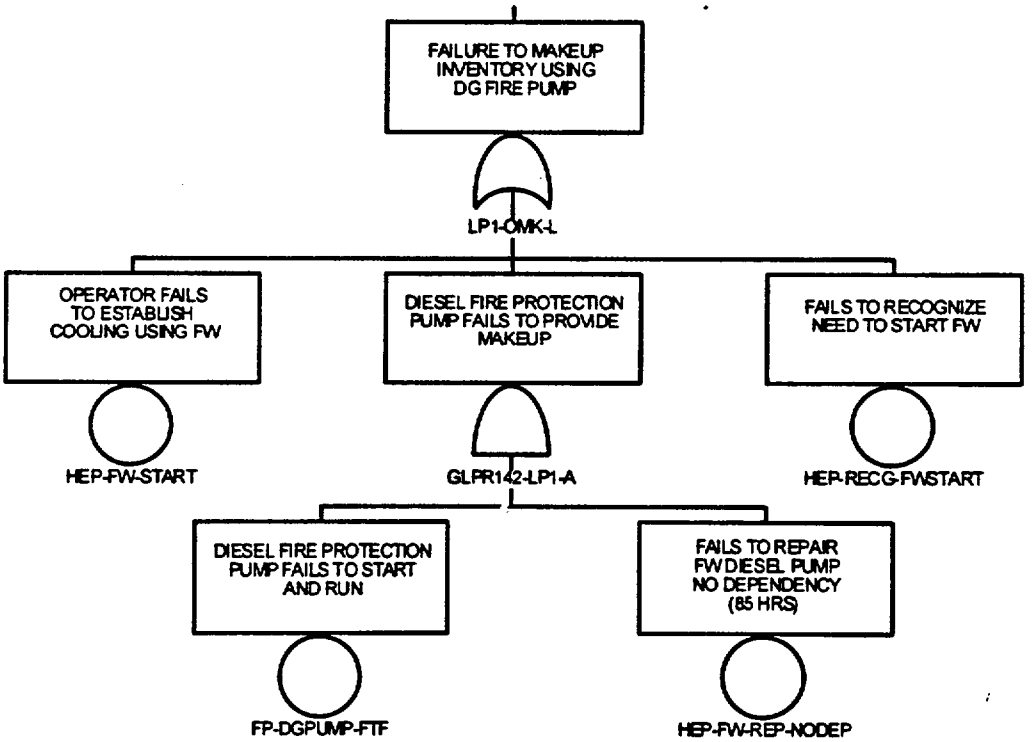
New tree

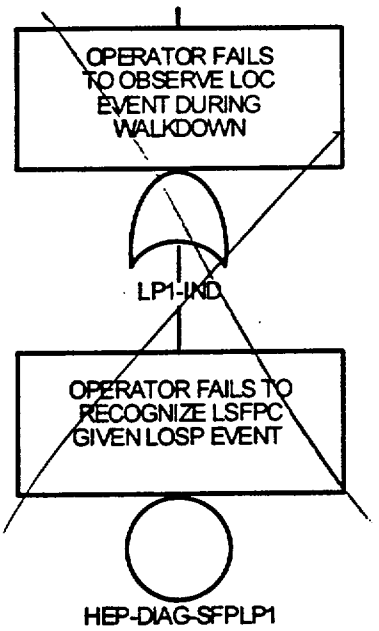
but need

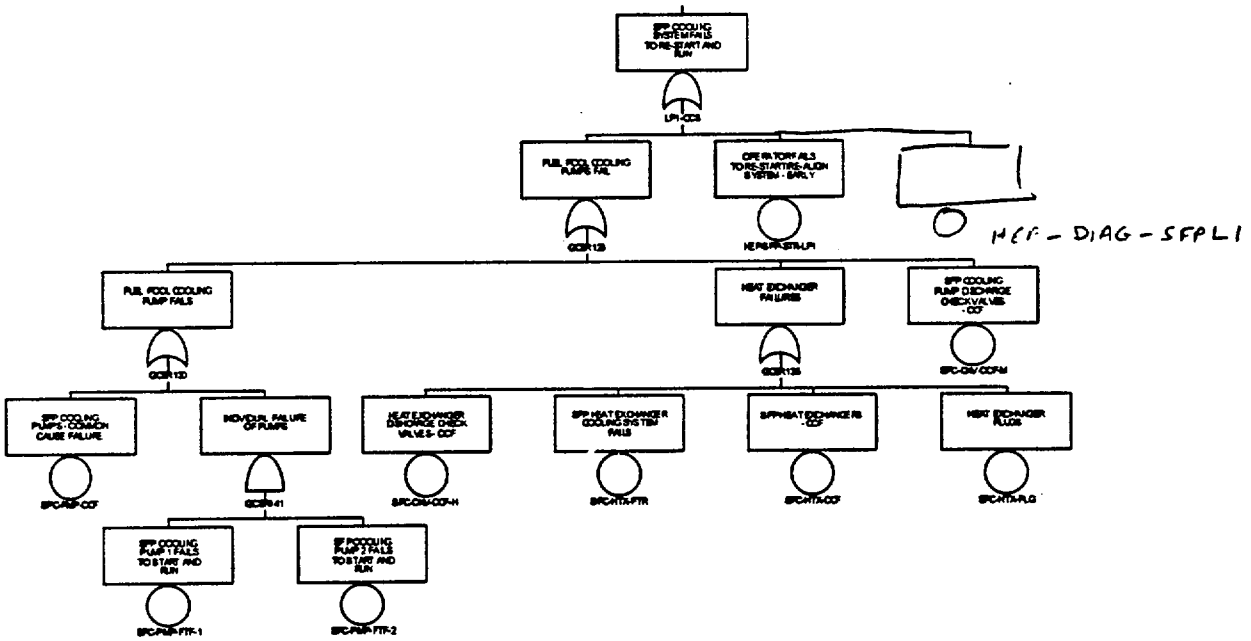
old

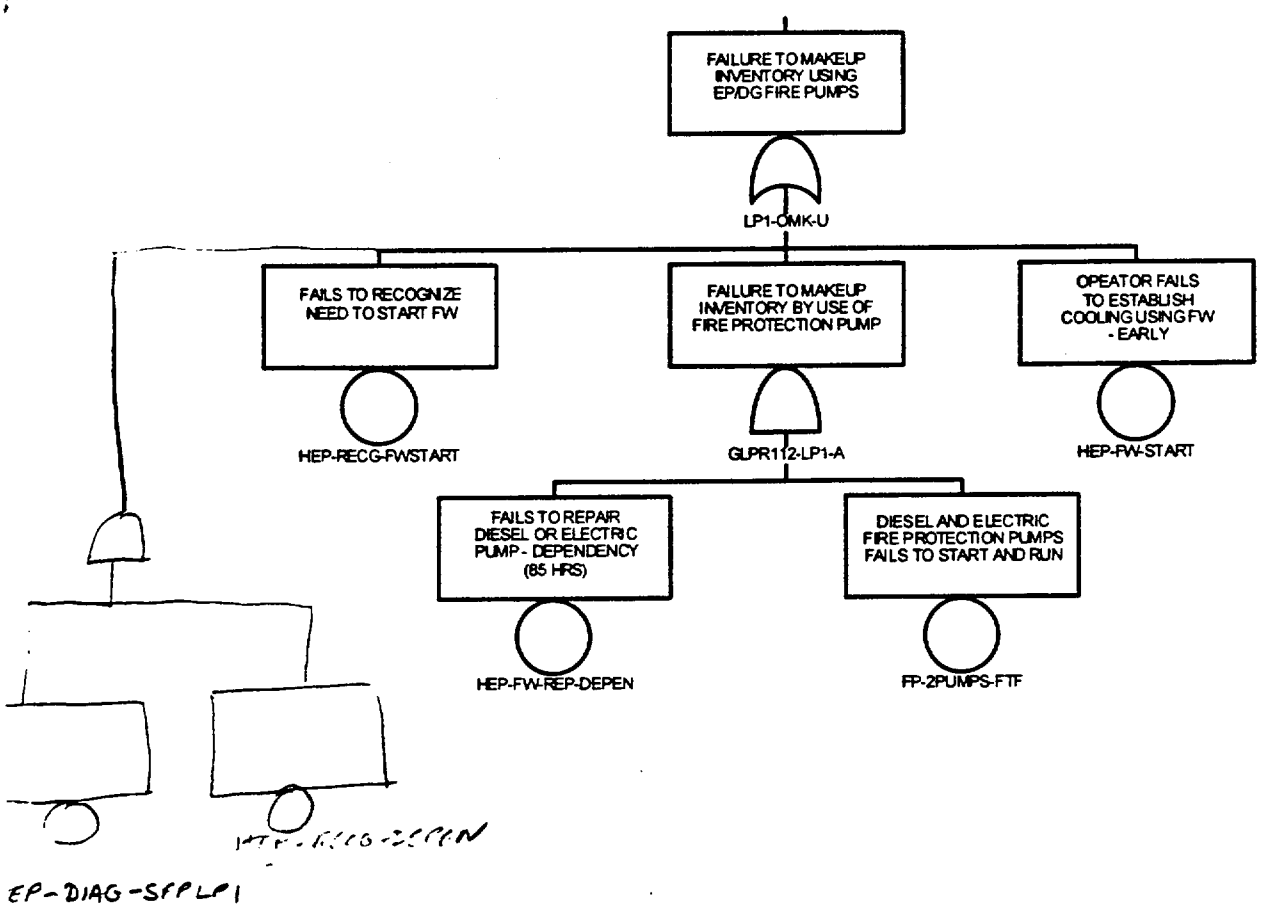
LP1-OFD

also




OPERATOR FAILS TO OBSERVE LOC EVENT DURING WALKDOWN
LP1-IND
OPERATOR FAILS TO RECOGNIZE LSFPC GIVEN LOSP EVENT
HEP-DIAG-SFPLP1


HEP-DIAG-SFPLP1



EP-DIAG-SFPLP1

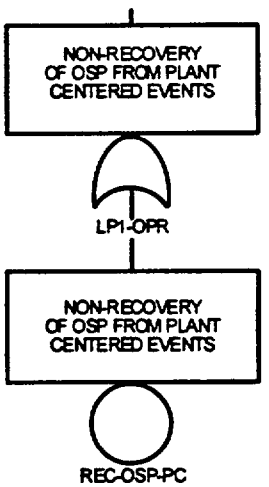
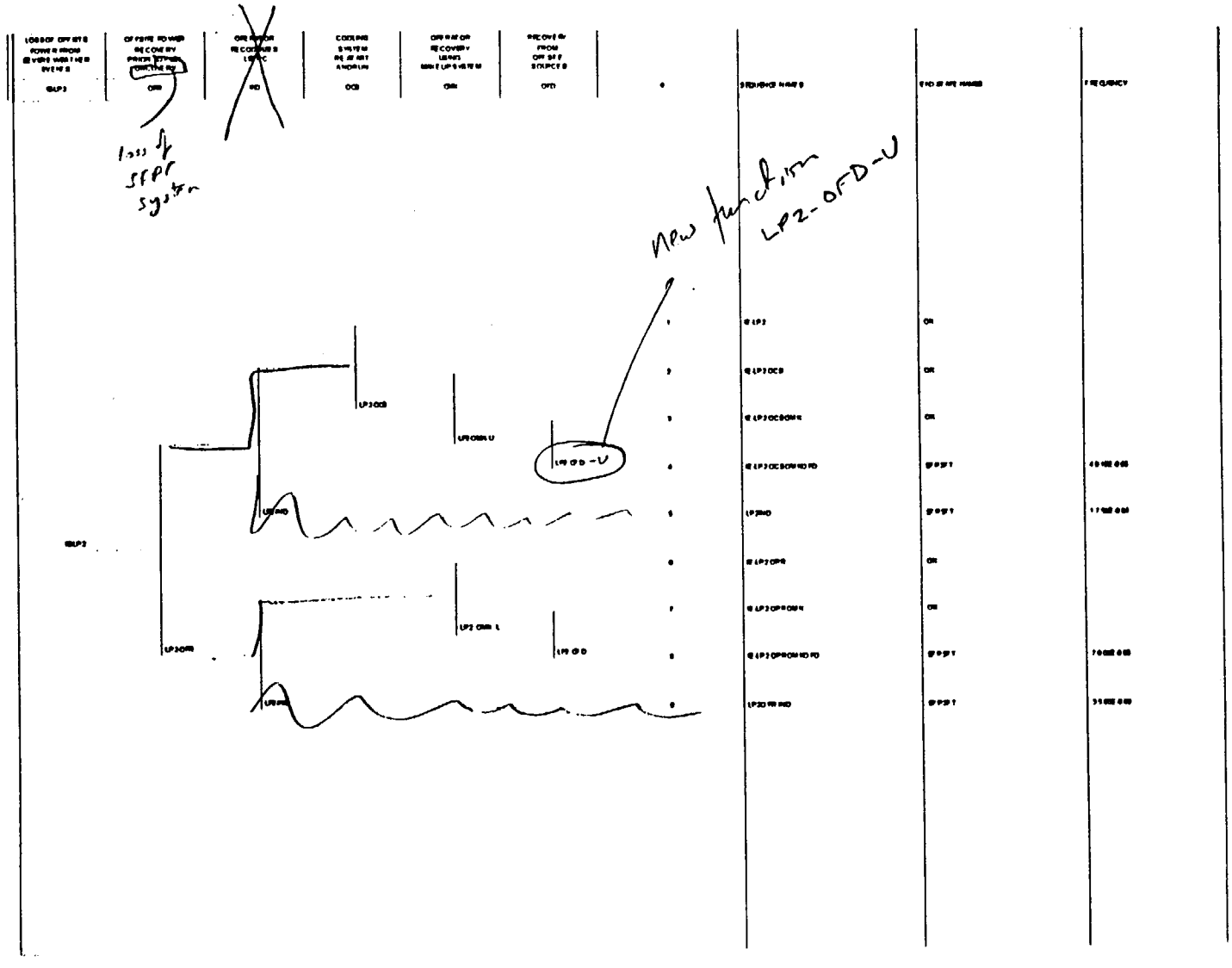


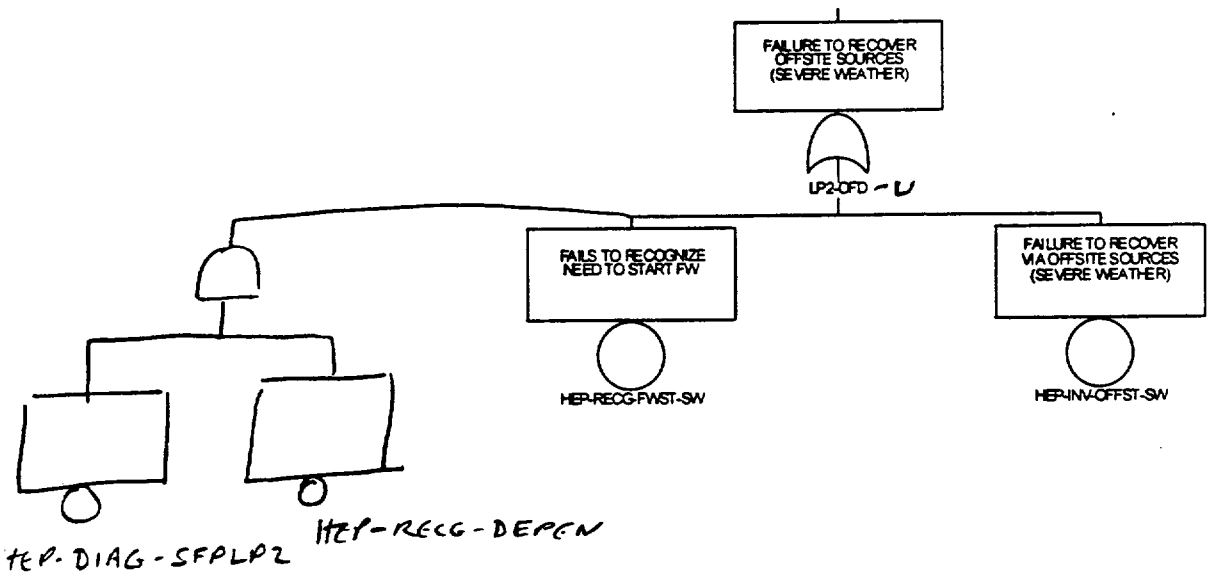
Table 4.3. Basic Event Summary for Plant-centered and Grid-related Loss of Offsite Power

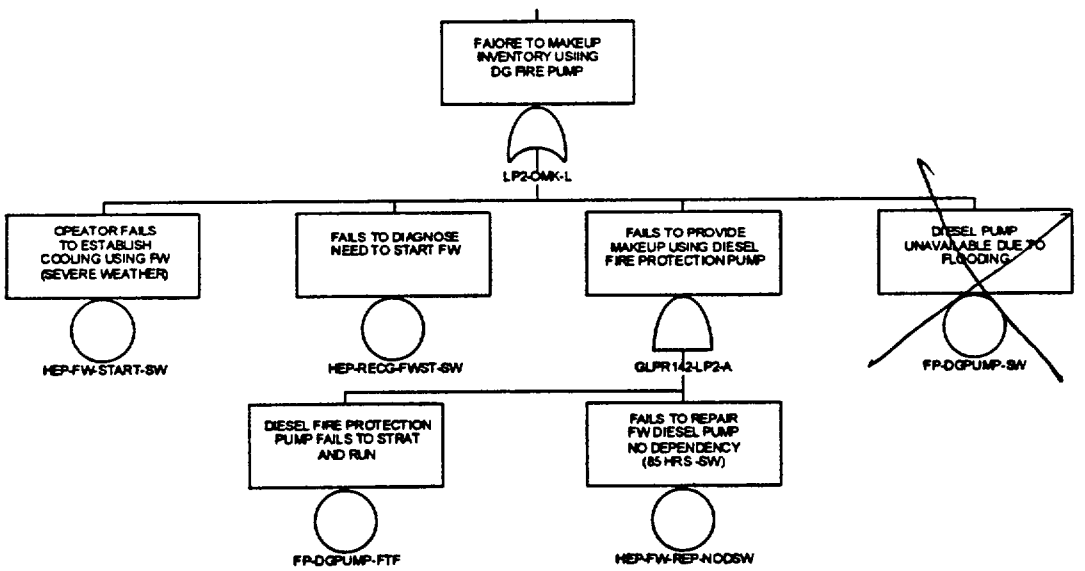
Basic Event Name	Description	Best Case
IE-LP1	Loss of offsite power due to plant-centered or grid-related causes	8.0E-2
REC-OSP-PC	Recovery of offsite power within 24 hours	1.0E-2
HEP-DIAG-SFPLP1	Operator diagnosis of loss of SFP cooling due to loss of offsite power	1.0E-6
HEP-SFP-STR-LP1	Operator fails to restart and align the SFP cooling system once power is recovered	5.0E-6
HEP-RECG-FWSTART	Operator fails to diagnose need to start the firewater system	2.0E-5
HEP-DIAG-DEPEN	Operators fail to recognize need to cool pool given prior faiolure	5E-02
HEP-FW-START	Operator fails to start firewater pump and provide alignment	1.0E-5
HEP-FW-REP-NODEP	Repair crew fails to repair firewater system	1E-3
SPC-PMP-CCF	SFP cooling pumps – common cause failure	5.9E-4
SPC-PMP-FTF-1	SFP cooling pump 1 fails to start and run	3.9E-3
SPC-PMP-FTF-2	SFP cooling pump 2 fails to start and run	3.9E-3
FP-2PUMPS-FTF	Failure of firewater pump system	6.7E-4
FP-DGPUMP-FTF	Failure of the diesel-driven firewater pump	**1.8E-1**

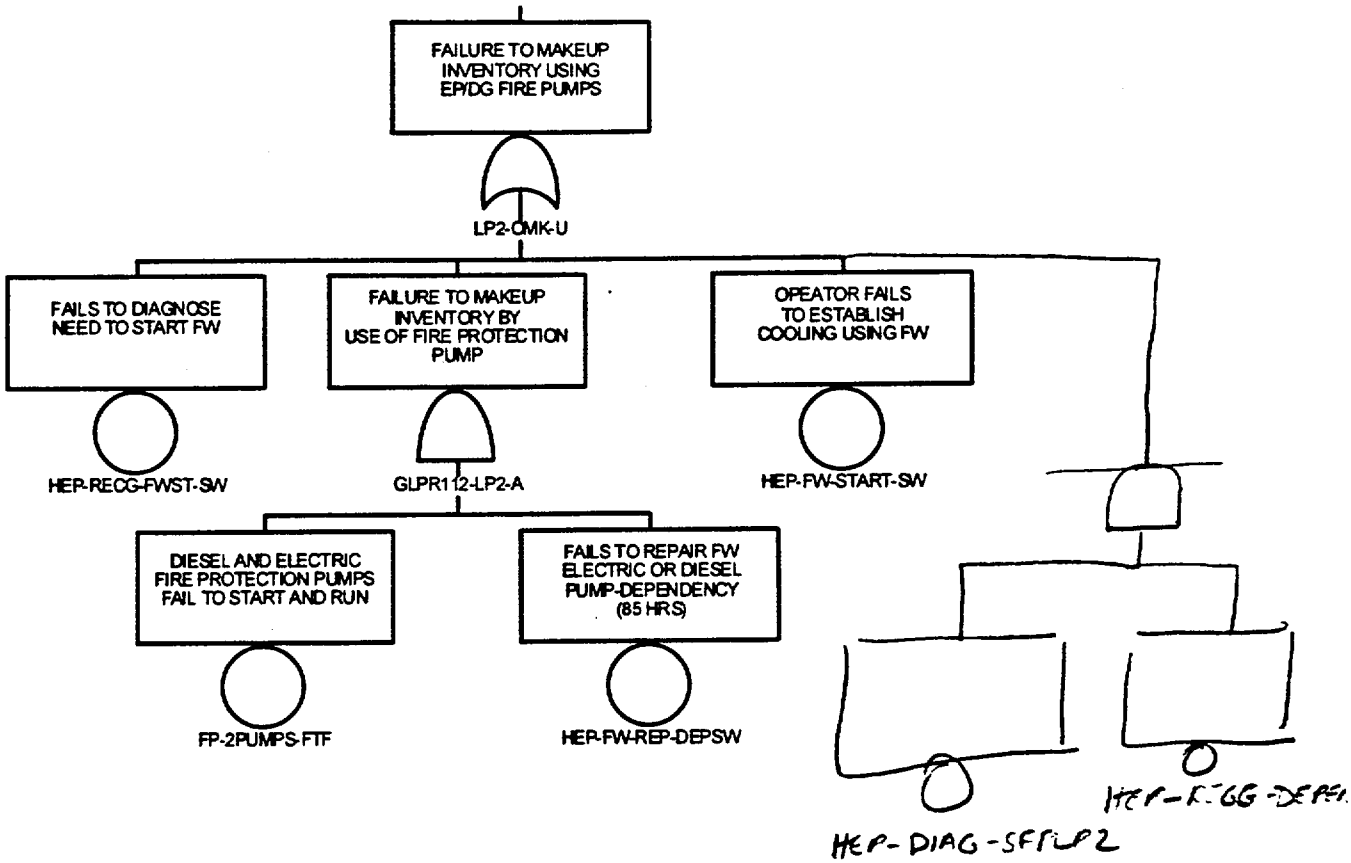
* For non-recovery power sequences, the basic events for firewater system were set to 'true' or false as necessary.

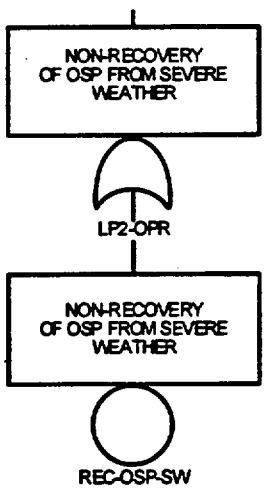
Figure 6a. Severe weather related loss of offsite power event tree (~~Sensitivity case~~)

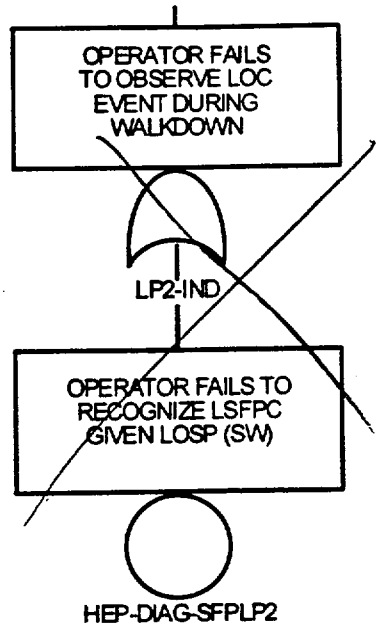


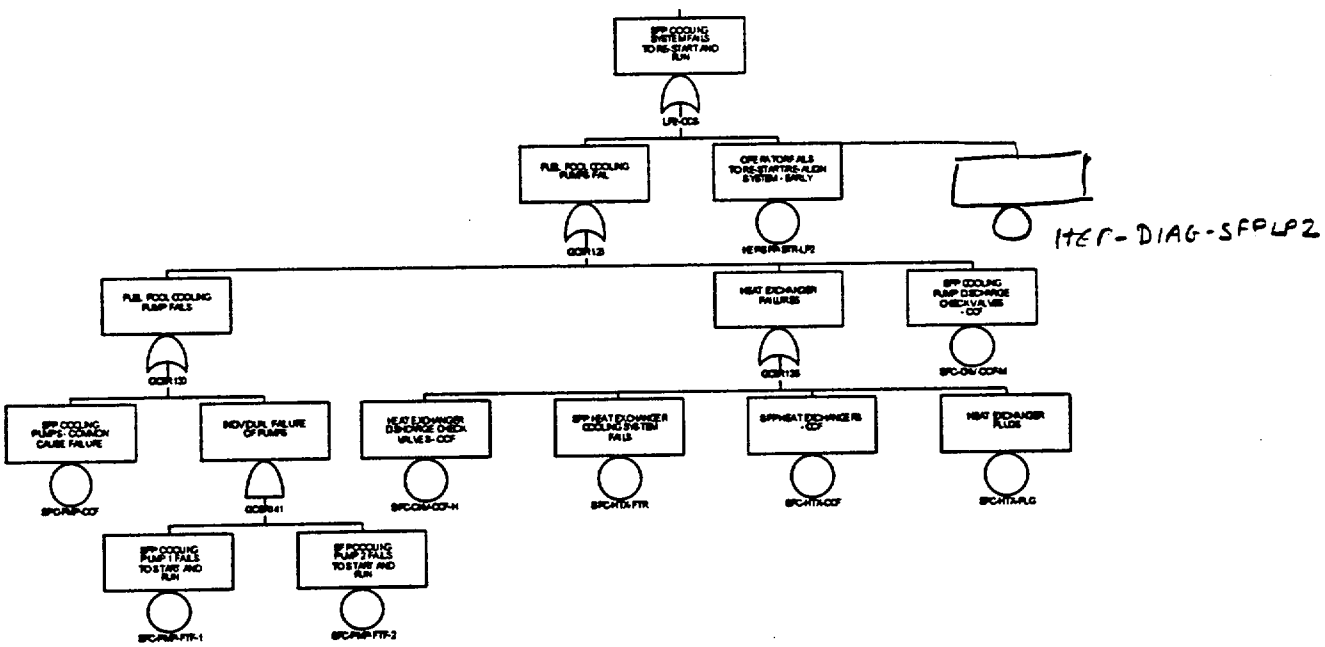

FAILURE TO RECOVER OFFSITE SOURCES (SEVERE WEATHER)
LP2-OFD
FAILS TO RECOGNIZE NEED TO START FW
FAILURE TO RECOVER VIA OFFSITE SOURCES (SEVERE WEATHER)
HEP-RECG-FWST-SW
HEP-INV-OFFST-SW
HEP-DIAG-SFPLP2
HEP-RECG-DEPEN


FAIORE TO MAKEUP INVENTORY USIING DG FIRE PUMP
LP2-OMK-L
OPEATOR FAILS TO ESTABLISH COOLING USING FW (SEVERE WEATHER)
FAILS TO DIAGNOSE NEED TO START FW
FAILS TO PROVIDE MAKEUP USING DIESEL FIRE PROTECTION PUMP
DIESEL PUMP UNAVAILABLE DUE TO FLOODING
HEP-FW-START-SW
HEP-RECG-FWST-SW
GLPR142-LP2-A
FP-DGPUMP-SW
DIESEL FIRE PROTECTION PUMP FAILS TO STRAT AND RUN
FAILS TO REPAIR FW DIESEL PUMP NO DEPENDENCY (85 HRS -SW)
FP-DGPUMP-FTF
HEP-FW-REP-NODSW


FAILURE TO MAKEUP INVENTORY USING EP/DG FIRE PUMPS
LP2-OMK-U
FAILS TO DIAGNOSE NEED TO START FW
HEP-RECG-FWST-SW
FAILURE TO MAKEUP INVENTORY BY USE OF FIRE PROTECTION PUMP
GLPR112-LP2-A
OPEATOR FAILS TO ESTABLISH COOLING USING FW
HEP-FW-START-SW
DIESEL AND ELECTRIC FIRE PROTECTION PUMPS FAIL TO START AND RUN
FP-2PUMPS-FTF
FAILS TO REPAIR FW ELECTRIC OR DIESEL PUMP-DEPENDENCY (85 HRS)
HEP-FW-REP-DEPSW
HEP-DIAG-SFPUP2


NON-RECOVERY OF OSP FROM SEVERE WEATHER
LP2-OPR
NON-RECOVERY OF OSP FROM SEVERE WEATHER
REC-OSP-SW


OPERATOR FAILS TO OBSERVE LOC EVENT DURING WALKDOWN
LP2-IND
OPERATOR FAILS TO RECOGNIZE LSFPC GIVEN LOSP (SW)
HEP-DIAG-SFPLP2


HEP-DIAG-SFPLP2

Basic Event	Best Case	Sensitivity Case
HEP-INV-OFFSITE	8.0E-2	5.0E-1

4.4.6. Summary

Table 4.4 presents a summary of basic event used in the Loss of Offsite Power event from severe weather tree.

Table 4.4 Basic Event Summary for Severe Weather Loss of Offsite Power

Basic Event Name	Description	Basic Event Probability
IE-LP2	LOSP event due to severe-weather-related causes	1.1E-02
HEP-DIAG-SFPLP2	Operator diagnosis of loss of SFP cooling due to loss of offsite power	2.0E-5
HEP-RECG-DEPEN	Failure to recognize need to cool pool given prior failure	5.0E-2
HEP-SFP-STR-LP2	Operator fails to restart and align the SFP cooling system once power is recovered	5.0E-4
HEP-RECG-FWST-SW	Operator fails to diagnose need to start the firewater system	1.0E-4
HEP-FW-START-SW	Operator fails to start firewater pump and provide alignment	1.0E-3
HEP-FW-REP-DEPSW	Repair crew fails to repair firewater system	7.0E-2
HEP-FW-REP-NODSW	Repair crew fails to repair firewater system	2.5E-2
HEP-INV-OFFST-SW	Operator fails to provide alternate sources of cooling from offsite	8.0E-2

Basic Event Name	Description	Basic Event Probability
REC-OSP-SW	Recovery of offsite power within 24 hours	2.0E-2
SPC-CKV-CCF-H	Heat exchanger discharge check valves – CCF	1.9E-5
SPC-CKV-CCF-M	**SFP cooling pump discharge check valves - CCF**	**3.2E-5**
SPC-HTX-CCF	**SFP heat exchangers – CCF**	**1.9E-5**
SPC-HTX-FTR	**SFP heat exchanger cooling system fails**	**2.4E-4**
SPC-HTX-PLG	**Heat exchanger plugs**	**2.2E-5**
SPC-PMP-CCF	**SFP cooling pumps – common cause failure**	**5.9E-4**
SPC-PMP-FTF-1	**SFP cooling pump 1 fails to start and run**	**3.9E-3**
SPC-PMP-FTF-2	**SFP cooling pump 2 fails to start and run**	**3.9E-3**
FP-2PUMPS-FTF	**Failure of firewater pump system**	**6.7E-4**
FP-DGPUMP-FTF	**Failure of the diesel-driven firewater pump**	**1.8E-1**

[a] For non-recovery power sequences, the basic events for firewater system were set to 'true' or 'false' as necessary.