Project Name:				Date:		Page 1 of 1
Process: Boiling Water Reactor						
Section: Boiling Water Reactor		Reference drawing: Refer to drawing above				
Item:	Study Node:	Process Parameter:	Guide Words:	Possible Causes:	Possible Consequences:	Action Required:
1A	Boiling Water Reactor	Flow	No/Not	Possible plant shutdown	Possible gas leak due to overpressure. Explosion risk due to the heated fluid's limited access to coolant processes or possible exposure to fire.	Notify the proper authorities of possible dispersion/explosion risk. Perform evacuation and shutdown procedures.
				Blockage in pipes	Possible leak due to overpressure. The surrounding area may be exposed to carbon monoxide.	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping.
				Possible leak	The surrounding area is exposed to hazardous and flammable gases – carbon monoxide, methanol, and hydrogen.	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping. Perform evacuation and shutdown procedures.
			Less	Blockage in pipes	Possible leak due to overpressure. The surrounding	Shutdown process and all possible ignition sources, notify the proper authorities

					area may be exposed to carbon monoxide.	of any possible dispersion risk, and have operators inspect piping.
				Possible leak	The surrounding area is exposed to hazardous and flammable gases – carbon monoxide, methanol, and hydrogen.	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping. Perform evacuation and shutdown procedures.
			More	Excessive overproduction from the feedstock unit	Possible gas leak due to overpressure, resulting in a dispersion risk. Explosion risk due to the heated fluid's limited access to coolant processes or possible exposure to fire.	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping. Perform evacuation and shutdown procedures.
2A	Boiling Water Reactor	Pressure	No/Not	No existing causes can be determined	No existing consequences can be determined	N/A
			Less	Unexpected exposure to the vacuum or purge line	Readily combustible fluid – carbon monoxide, methanol, and hydrogen – will enter the vacuum or purge line, causing the system to become volatile.	Perform shutdown procedures and restart process with correct valve configurations. Operators inspect piping.
				Leak / loosely sealed reactor	Exposure to the atmosphere will result in the surrounding area being exposed to	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping. Perform

					carbon monoxide – a hazard upon ingestion and flammable – and methanol and hydrogen, which are combustible in exposure to an ignition source.	evacuation and shutdown procedures.
			More	Excessive overproduction from the feedstock unit	Possible gas leak due to overpressure, resulting in a dispersion risk. Explosion risk due to the heated fluid's limited access to coolant processes or possible exposure to fire.	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping. Perform evacuation and shutdown procedures.
3A	Boiling Water Reactor	Temperature	No/Not	No existing causes can be determined	No existing consequences can be determined	N/A
			Less	Leak / loosely sealed reactor	Exposure to the atmosphere will result in the surrounding area being exposed to carbon monoxide – a hazard upon ingestion and flammable – and methanol and hydrogen, which are combustible in exposure to an ignition source.	Shutdown process and all possible ignition sources, notify the proper authorities of any possible dispersion risk, and have operators inspect piping. Perform evacuation and shutdown procedures.
			More	Limited access to coolant fluid/processes	Explosion risk due to flammable fluids' exposure to elevated	Notify the proper authorities of possible explosion risk. Perform evacuation and shutdown procedures.

					temperatures / possible exposure to an ignition source	