航煤加氢装置电磁切断阀及故障处置方法					
序号	电磁阀位号	描述	异常关闭后现象	主要危害	处置方法
1	XMV-11701	新氢压缩机入口切断阀	1：DCS 上阀门状态变成红色；2：新氢进装置流量 FI-11701 下降归零，报警；3：新氢机联锁停机。	新氢进料中断，联合压缩机停机，联锁引发反应加热炉熄炉，反应段停工。	1：现场确认阀门关闭，压缩机联锁停机，2：采用手动方式，使用手轮打开切断阀。:3：重新启动循环机；4：加热炉点炉恢复生产；5:根据系统压力，新氢机加负荷。
2	XMV-11702	新氢压缩机出口切断阀	1：DCS 上阀门状态变成红色；2：新氢进混氢点流量 FI-11704 下降归零，报警；3：新氢机出口压力超高报警	新氢机出口关闭，机组憋压，联合压缩机停机，联锁引发反应加热炉熄炉，反应段停工。	1：现场确认压缩机停机。2：全关一反控制阀及副线阀，:3：现场使用手轮，立即打开切断阀。4：流程打通后，重启循环机，5：加热炉点炉恢复生产。6：根据系统压力，新氢段加载负荷。
3	XMV-11401	循环氢压缩机入口切断阀	1：DCS 上阀门状态变成红色；2：D-104 及反应段压力不断上涨，报警:3：循环机出口流量下降，报警；4：循环机停机	循环氢压缩机进料中断，机组联锁停机，反应加热炉停炉，反应段停工。	1：确认压缩机，加热炉联锁触发。2：现场手动打开切断阀.:3:循环流程通常后，重启循环机。4：点加热炉恢复生产。5：根据系统压力，新氢机加载负荷。
4	XMV-11402	循环机出口至混氢点切断阀	1：DCS 上阀门状态变成红色；2：D-104 及反应段压力不断上涨，报警:3：循环机出口流量 FI-11402 下降，报警；	进入反应器的混氢中断，循环机出口憋压，加热炉炉管干烧。	1：确认压缩机，加热炉联锁触发。2：现场手动打开切断阀.:3:循环流程通常后，重启循环机。4：点加热炉恢复生产。5：根据系统压力，新氢机加载负荷。
5	XMV-11403	循环机出口至 A-101 切断阀	1：DCS 上阀门状态变成红色；2：循环机出口压力 PI11401 上涨，返空冷流量 FI-11401 下降，报警；	循环氢全部进入反应段，加热炉负荷增加，反应温度下降。	1：现场确认阀门关闭。2：主操手动关闭 PIC-11401. 3：外操现场手动打开 XMV-11403. 4：外操根据 K-102 出口压力，调整 PIC-11401.

序号	电磁阀位号	描述	异常关闭后现象	主要危害	处置方法
6	XMV-20101	分馏塔底出口至 P-203 切断阀	1：DCS 上阀门状态变成红色。2：P-203 抽空，F-201 分支进料压力及流量下降，报警。F-201 低流量联锁。	P-203 抽空，F-201 进料中断，引发重沸炉低流量联锁熄炉，分馏短停工。	1：现场确认阀门关闭，重沸炉熄炉。2：现场停泵 P-203。3:现场手动打开 XMV-20101。4：重新起泵 P-203。5：重沸炉点炉升温，恢复操作。
7	XMV-20102	分馏塔底出口至 P-202 切断阀	1：DCS 上阀门状态变成红色。2：P-202 抽空，产品出装置流量下降，报警。3：C-201 液位上涨，满塔。	柴油外送中断，C-201 满塔。	1：现场打开 P-202 进出口连通线。2：现场手动打开 XMV-20102。3：关闭 P-202 副线，调整出口阀门，控制 C-201 液位至正常范围。
8	XMV-20401	D-201 底部石脑油至 P-201 切断阀	1：DCS 上阀门状态变成红色。2：P-201 抽空，回流流量下降报警。3：D-201 液面上涨，报警。	分馏塔回流中断，分馏塔冲塔，D-201 满罐，石脑油进入富气流程。	1：将富气改至低压放空。2：停泵 P-201。3;现场手动打开切断阀。4：重新起泵，建立回流和外送。

柴油加氢装置电磁切断阀及故障处置方法					
序号	电磁阀位号	描述	异常关闭后现象	主要危害	处置方法
1	XMV-11301	F-101 出口切断阀	1：DCS 上阀门状态变成红色；2：压缩机出口压力急剧升高，报警；3：加热炉出口温度急剧下降，反应压力，液面急剧下降，报警。4：P-102 出口流量下降，压力迅速升高。	反应器进料被切断，压缩机，原料泵出口憋压，加热炉炉管干烧。	1：现场确认阀门关闭，2：紧急熄灭反应加热炉。3：全开压缩机二反一控制阀，压缩机全循环。4：关闭 R-101 级 R-102 减油阀。5：现场手动打开 XMV-11301。6：调整二返一控制阀，恢复氢气流程。7：加热炉点炉恢复生产；5:复位 P-102 联锁，反应进油。
2	XMV-11901A	P-104 入口切断阀	-	-	-
3	XMV-11901B	P-104 出口切断阀	-	-	-
4	XMV-14301	K-101A 入口切断阀	1：DCS 上阀门状态变成红色；2：压缩机入口，出口压力急剧下降，报警；3：K-101 联锁停机	压缩机进料中断，损坏设备。同时补充氢流量低低联锁熄炉，反应进料切断。	1：确认现场阀门关闭，加热炉熄炉。2：启动备用机组，建立气路循环。3：恢复反应进料。4：点加热炉，恢复升温。
5	XMV-14302	K-101A 出口切断阀	1：DCS 上阀门状态变成红色；2：压缩机出口压力急剧上升，报警；3：K-101 联锁停机。4：反应系统压力急剧下降。5F-101 联锁熄炉。	压缩机出口憋压，损坏设备。同时补充氢流量低低联锁熄炉，反应进料切断。	1：确认现场阀门关闭，加热炉熄炉。2：启动备用机组，建立气路循环。3：恢复反应进料。4：点加热炉，恢复升温。
6	XMV-14303	K-101B 入口切断阀	1：DCS 上阀门状态变成红色；2：压缩机入口，出口压力急剧下降，报警；3：K-101 联锁停机	压缩机进料中断，损坏设备。同时补充氢流量低低联锁熄炉，反应进料切断。	1：确认现场阀门关闭，加热炉熄炉。2：启动备用机组，建立气路循环。3：恢复反应进料。4：点加热炉，恢复升温。

序号	电磁阀位号	描述	异常关闭后现象	主要危害	处置方法
7	XMV-14304	K-101B 出口切断阀	1：DCS 上阀门状态变成红色；2：压缩机出口压力急剧上升，报警；3：K-101 联锁停机。4：反应系统压力急剧下降。5F-101 联锁熄炉。	压缩机出口憋压，损坏设备。同时补充氢流量低低联锁熄炉，反应进料切断。	1：确认现场阀门关闭，加热炉熄炉。2：启动备用机组，建立气路循环。3：恢复反应进料。4：点加热炉，恢复升温。
8	XMV-20301	D-201 底部轻烃切断阀	1：DCS 上阀门状态变成红色；2：D-201 液位急剧上涨。3：P-201 抽空，C-201 回流和轻烃外送流量下降报警。	D-201 满罐，轻烃进入富气管网。C-201 回流中断，造成汽提塔冲塔。	1：现场确认阀门关闭。2：停泵 P-201.3：现场手动打开 XMV-20301。4：重新启动 P-201.
9	XMV-21201	C-202 底部至 P-203 切断阀	1：DCS 上阀门状态变成红色。2：P-203 抽空，泵出口压力下降报警。3：F-201 入口低流量联锁熄炉。	F-201 熄炉，分馏塔塔底温度不足，产品质量不合格。	1：现场停泵 P-203。2：现场手动打开 XMV-21201。3：重新起泵 P-203。4：重沸炉点炉，升温。
10	XMV-21202	C-202 底部至 P-205 切断阀	1：DCS 上阀门状态变成红色。2：P-205 抽空，泵出口压力下降报警。3：C-202 液面急剧上涨，淹塔。	C-202 淹塔，产品质量不合格。	1：现场停泵 P-205。2：现场手动打开 XMV-21202。3：重新起泵 P-205。4：调整塔底温度。

Solenoid shut-off valve of Kerosene Hydrotreating Unit and its troubleshooting method					
No.	Solenoid valve number	Description	Phenomenon after soleniod valve shutdown abnormally	Main hazard	Emergency treatment method
1	XMV-11701	Makeup gas compressor inlet shut-off valve	1: The valve status on the DCS turns red; 2: The makeup hydrogen flow into unit FI-11701 drops to zero and gives off alarm; 3: The makeup hydrogen compressor interlock shut down.	The makeup hydrogen is interrupted, the combined compressor shut down, the interlock caused the reaction furnace to extinguished, and the reaction system shutdown.	1: Confirm that the valve is closed on site, and the compressor is interlock shutdown 2: Switch to manual mode and use the handwheel to open the shut-off valve, 3: Restart the recycle gas compressor; 4: Re-ignite reaction furnace and resume production; 5: Load the capacity of makeup gas compressor according to the system pressure.
2	XMV-11702	Makeup gas compressor outlet shut-off valve	1: The valve status on the DCS turns red; 2: The mixed hydrogen flow FI-11704 drops to zero and gives off alarm; 3: The makeup hydrogen compressor outlet pressure gives off high alarm.	The outlet of the makeup hydrogen compressor is closed will caused the pressure to build up in the compressor, the combined compressor shut down, the interlock caused the reaction furnace to extinguished, and the reaction system shutdown.	1: Confirm the compressor is shutdown on site. 2: Fully close the return line control valve and its bypass valve; 3: Use the handwheel on site to immediately open the shut-off valve, 4: After the process flow is opened, restart the recycle compressor, 5: Re-ignite reaction furnace and resume production, 6: Load the capacity of makeup gas compressor according to the system pressure.
3	XMV-11401	Recycle gas compressor inlet shut-off valve	1: The valve status on the DCS turns red; 2: the pressure of D-104 and the reaction section is increase continuously and gives off alarm :3: the outlet flow of the recycle gas compressor decreasing and gives off alarm; 4: The recycle gas compressor shutdown	The feed into recycle gas compressor is interrupted, recycle gas compressor interlock shutdown, the reaction furnace to extinguished, and the reaction system shutdown.	1: Confirm the compressor and reaction furnace is triggered by interlock, 2: Open the shut-off valve manually on site, 3: Restart the recycle compressor after the recycle gas flow process is normal, 4: Re-ignite reaction furnace and resume production, 5: Load the capacity of makeup gas compressor according to the system pressure.

No.	Solenoid valve number	Description	Phenomenon after soleniod valve shutdown abnormally	Main hazard	Emergency treatment method
4	XMV-11402	Recycle gas compressor to hydrogen mixing point shut-off valve	1: The valve status on the DCS turns red; 2: the pressure of D-104 and the reaction section is increase continuously and gives off alarm 3: the outlet flow of recycle gas compressor FI-11402 is decreasing and gives off alarm.	Mixed hydrogen entering the reactor is stopped that caused the pressure to build up in recycle compressor, reaction furnace tube is dry burning.	1: Confirm the compressor and reaction furnace is triggered by interlock, 2: Open the shut-off valve manually on site, 3: Restart the recycle compressor after the recycle gas flow process is normal, 4: Re-ignite reaction furnace and resume production, 5: Load the capacity of makeup gas compressor according to the system pressure.
5	XMV-11403	Recycle gas compressor to A-101 shut-off valve	1: The valve status on the DCS turns red; 2: The outlet pressure PI11401 of the recycle gas compressor rises, and the return flow to air cooler FI-11401 drops gives off alarm;	All recycle gas enters the reaction section, the furnace load increases and the reaction temperature drops.	1: Confirm the valve is closed on site, 2: Main operator manually close PIC-11401, 3: Field operator manually open XMV-11403, 4: Field operator adjust PIC-11401 according to K-102 outlet pressure.
6	XMV-20101	Fractionator bottom to the P-203 shut-off valve	1: The valve status on the DCS turns red; 2: P-203 is vacuated, the feed pressure and flow of F-201 branch decrease, gives off alarm. 3. F-201 low flow interlock trigger.	P-203 was vacuated and F-201 feed interrupted, which triggered the low-flow interlock to extinguish the reboiler, and the fractionator shutdown for a short time.	1: Confirm that the valve is closed and reboiler is extinguished.2: Stop P-203 on site.3: Manually open XMV-20101 on site. 4: Restart P-203.5: Re-ignite reboiler and resume operation.
7	XMV-20102	Fractionator bottom to the P-202 shut-off valve	1: The valve status on DCS turns red.2: P-202 vacuated, product discharge to offplot flow decreases and gives of alarm.3: C-201 living level rising, tower flooding.	Product diesel stopped sending to offplot, C-201 tower flooding.	1: Open the P-202 inlet and outlet connection line on site.2: Manually open XMV-20102 on site.3: Close the P-202 bypass line, adjust the outlet valve, and control the C-201 liquid level to the normal range.

No.	Solenoid valve number	Description	Phenomenon after soleniod valve shutdown abnormally	Main hazard	Emergency treatment method
8	XMV-20401	D-201 bottom naphtha flow to P-201 shut-off valve	1: The valve status on DCS turns red.2: P-201 vacuated, reflux flow drop and gives of alarm.3: D-201 liquid level rising gives off alarm.	Reflux flow of fractionator is interrupted, tower flushing, D-201 drum is full, naphtha enters the gas-rich process flow.	1: Change the rich gas to low pressure venting system.2: Stop P-201. 3; Open the shut-off valve manually on site.4: Restart the pump, establish the reflux flow and product flow.

Solenoid shut-off valve of Diesel Hydrotreating Unit and its troubleshooting method					
No.	Solenoid valve number	Description	Phenomenon after soleniod valve shutdown abnormally	Main hazard	Emergency treatment method
1	XMV-11301	F-101 outlet shutoff valve	1: the state of the valve on DCS turns red;2: compressor outlet pressure rises sharply, alarm;3: the heating furnace outlet temperature drops sharply, the reaction pressure, the liquid level drops sharply, the alarm.4: The P-102 outlet flow decreases and the pressure rises rapidly.	Reactor feed is cut off, compressor, raw material pump outlet suppress pressure, heating furnace tube dry burning.	1: field confirmation valve closed, 2: emergency extinguishing reaction furnace.3: Fully open compressor two anti one control valve, the compressor full cycle.4. Close R-101 R-102 relief valve.5: Manually open XMV-11301 on site.6: Adjust the two return one control valve to restore the hydrogen flow.7: Heating furnace point furnace resume production;5: Reset the P-102 interlock and react the oil intake.
2	XMV-11901A	P-104 inlet cut-off valve	-	-	-
3	XMV-11901B	P-104 outlet shutoff valve	-	-	-
4	XMV-14301	K-101A inlet cut-off valve	1: the state of the valve on DCS turns red;2: compressor inlet and outlet pressure drops sharply, alarm;3: K-101 interlock stop	Compressor feeding interruption, damage to equipment.At the same time, low hydrogen flow rate is added and low interlock quenching furnace is cut off for reaction feed.	1: Confirm the field valve is closed and the heating furnace is extinguished.2: Start the standby unit and establish the gas circulation.3: Recovery reaction feed.4: point the heating furnace to restore the temperature rise.
5	XMV-14302	K-101A outlet shutoff valve	1: the state of the valve on DCS turns red;2: compressor outlet pressure rises sharply, alarm;3: K-101 interlock stop.4: the pressure of the reaction system drops sharply.5 F-101 interlock extinguisher.	Compressor outlet pressure, damage equipment.At the same time, low hydrogen flow rate is added and low interlock quenching furnace is cut off for reaction feed.	1: Confirm the field valve is closed and the heating furnace is extinguished.2: Start the standby unit and establish the gas circulation.3: Recovery reaction feed.4: point the heating furnace to restore the temperature rise.

No.	Solenoid valve number	Description	Phenomenon after soleniod valve shutdown abnormally	Main hazard	Emergency treatment method
6	XMV-14303	K-101B inlet cut-off valve	1: the state of the valve on DCS turns red;2: compressor inlet and outlet pressure drops sharply, alarm;3: K-101 interlock stop	Compressor feeding interruption, damage to equipment.At the same time, low hydrogen flow rate is added and low interlock quenching furnace is cut off for reaction feed.	1: Confirm the field valve is closed and the heating furnace is extinguished.2: Start the standby unit and establish the gas circulation.3: Recovery reaction feed.4: point the heating furnace to restore the temperature rise.
7	XMV-14304	K-101B outlet shutoff valve	1: the state of the valve on DCS turns red;2: compressor outlet pressure rises sharply, alarm;3: K-101 interlock stop.4: the pressure of the reaction system drops sharply.5F-101 interlock extinguisher.	Compressor outlet pressure, damage equipment.At the same time, low hydrogen flow rate is added and low interlock quenching furnace is cut off for reaction feed.	1: Confirm the field valve is closed and the heating furnace is extinguished.2: Start the standby unit and establish the gas circulation.3: Recovery reaction feed.4: point the heating furnace to restore the temperature rise.
8	XMV-20301	D-201 bottom light hydrocarbon shutoff valve	1: the state of the valve on DCS turns red;2: D-201 liquid level is rising sharply.3: P-201 pumping, C-201 reflux and light hydrocarbon outflow flow decline alarm.	D-201 full tank, light hydrocarbon into rich gas pipe network.C-201 backflow interruption, causing stripper rush tower.	1: Confirm the valve is closed on site.2: pump stop P-201.3: manually open XMV-20301 on site.4: Restart P-201.
9	XMV-21201	C-202 bottom to P-203 shutoff valve	1: The valve status on DCS turns red.2: P-203 pump out, pump outlet pressure drop alarm.3: F-201 inlet low flow interlock extinguisher.	F-201 quenching furnace, bottom temperature of fractionation tower is insufficient, product quality is not qualified.	1: Pump stop P-203 on site.2: Manually open XMV-21201 on site.3: Restart pump P-203.4: Reboiling furnace point furnace, temperature rise.
10	XMV-21202	C-202 bottom to P-205 shutoff valve	1: The valve status on DCS turns red.2: P-205 pump out, pump outlet pressure drop alarm.3: C-202 liquid level rises sharply, flooding tower.	C-202 flooded tower, product quality is not up to standard.	1: Field pump stop P-205.2: Manually open XMV-21202 on site.3: Restore pump P-205.4: adjust the temperature at the bottom of the tower.