

HAZARDS REVIEW CHECKLIST
CONDEA VISTA ABERDEEN PLANT

Reference M.O.C. Authorization Form No.: _____
 Hazards review completed by:

Signature	Date
<i>Jeff Allen Seay</i>	<i>2/26/98</i>
<i>John Hefner</i>	<i>3/26/98</i>
<i>John Hefner</i>	<i>3/26/99</i>

Electrical (Note: If the answer to any of the questions in this section is yes or is unknown, then an electrical engineering review of the change is required.)

	Does the Change:	Yes	No	Further action req'd? Yes/No
E-1	Conflict with the electrical classification of the existing equipment in the area?		✓	No
E-2	Cause the reclassification of a hazardous location?		✓	No
E-3	Affect the load of any termination, contact, relay, supply wiring, buss work, fusing, circuit breaker, cable tray, motor controller, motor disconnect, motor thermal protector, ground, transformer, or emergency or battery backup system?		✓	No
E-4	Require measures to control the development or discharge of static electricity?		✓	No
E-5	Add harmonic frequencies to any AC system?		✓	No
E-6	Conflict with the National Electric Code or State Electric Code?		✓	No
E-7	Conflict with the routing of underground electrical cable?		✓	No
E-8	Cause a need to pressurize surrounding buildings?		✓	No
E-9	Require the addition of emergency lighting?		✓	No

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Emergency, Fire Protection, and Safety Systems

	Does the Change:	Yes	No	Further action req'd? Yes/No
ES-1	Cause a problem for emergency access to existing equipment?		✓	No
ES-2	Cause a problem with access to existing emergency equipment (fire extinguishers, safety showers, SCBA's fire monitors, etc.)?		✓	No
ES-3	Require additional fire extinguishers?		✓	No
ES-4	Require additional SCBA's?		✓	No
ES-5	Require the addition of a sprinkler system, fire water monitor, deluge, Halon, foam, or other fire protection system?	✓		yes
ES-6	Impair the performance of an existing fire protection system (ex.: installing equipment or a structure in front of a fire water monitor, adding an additional monitor which decreases water flow to other areas)?		✓	No
ES-7	Require additional warning lights or horns?		✓	No
ES-8	Require additional hydrocarbon or other detectors or alarms?		✓	No
ES-9	Have the potential to impair cooling water flow to the reactors?		✓	No
ES-10	Have the potential to impair the effectiveness of the reactor emergency kill system?		✓	No
ES-11	Require additional safety interlocks?		✓	No
ES-12	Have the potential to impair existing interlocks?		✓	No
ES-13	Affect existing egress paths or require new egress paths?		✓	No
ES-14	Require the addition of safety signs or painted areas?		✓	No
ES-15	Require bleeders or plugs that must be painted?	✓		yes
ES-16	Change the design conditions or considerations for existing relief systems?	✓		yes
ES-17	Require additional pressure relief?	✓		yes
ES-18	Introduce new sources of ignition?		✓	No
ES-19	Require additional or revised area lighting?		✓	No
ES-20	Affect adjacent facilities which could require changes in procedures?		✓	No
ES-21	Cause a problem for emergency access to equipment?		✓	No
ES-22	Prevent access to emergency shutoff valves?		✓	No
ES-23	Cause the need for additional safety showers or eye wash stations?		✓	No
ES-24	Cause a revision to the personal protective equipment used?		✓	No

ES-5 - review w/ SAFETY MANAGER.

ES-15 - review BY ENV. MANAGER

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ES-16/17 - to FORM DESIGN STANDARDS. Page 2 of 7

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Materials of Construction/Mechanical

	Does the Change:	Yes	No	Further action req'd? Yes/No
M-1	Introduce a change in material of construction?		✓	No
M-2	Increase the potential for Chloride Stress Corrosion Cracking?		✓	No
M-3	Increase the potential for mechanical failure of an existing system or piece of equipment (ex.: installing an oversized actuator on an existing valve)?		✓	No
M-4	Introduce a different design style or model for a piece of equipment in a critical service (VCM, natural gas, steam, etc.)?		✓	No
M-5	Introduce potential chemical or temperature incompatibility with materials of construction?		✓	No
M-6	Introduce copper-containing material (copper, brass, bronze, etc.) in areas where it may contact VCM?		✓	No
M-7	Introduce aluminum-containing material in areas where it may contact VCM or HCl?		✓	No
M-8	Increase the load on an existing platform or support structure?	✓		yes
M-9	Require additional platforms, ladders, handrails, safety chains, or chain operators?	✓		yes
M-10	Vary from the corporate Engineering Standards?		✓	No
M-11	Increase the potential for overpressuring piping or equipment (block in, HPSW, reaction, fire, overheating, other)?		✓	No
M-12	Require lifting over operating units or high traffic areas?		✓	No

M-8/M-9 - ENGINE STDs TO BE FOLLOWED.

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Process Hazards

	Does the Change:	Yes	No	Further action req'd? Yes/No
PS-1	Increase the potential for forming a flammable mixture (VCM/oxygen, or other)?		✓	No
PS-2	Introduce the potential for cross-contamination of air, steam, or water systems?		✓	No
PS-3	Introduce new chemicals which require MSDS's?		✓	No
PS-4	Introduce chemicals which are toxic, reactive, corrosive, or flammable?		✓	No
PS-5	Increase the required in-plant inventory of any hazardous chemical?		✓	No
PS-6	Increase the potential for poly-peroxide formation in VCM (ex.: create stagnant pools of VCM)?		✓	No
PS-7	Increase the hazards of a power, air, steam, or cooling water failure?		✓	No
PS-8	Require winterization (or summerization) modifications?		✓	No
PS-9	Require manual opening/closing of valves as an integral part of the process?		✓	No
PS-10	Increase the potential for VCM to back up into equipment or piping not currently in VCM service?		✓	No
PS-11	Occur in an area where adjacent facilities may impact the change or facility?		✓	No

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Environmental

	Does the Change:	Yes	No	Further action req'd? Yes/No
EV-1	Have the potential to increase VCM emissions?	✓		yes
EV-2	Have the potential to increase other air emissions (ex.: particulates, ozone, NOx, CO, etc.)?		✓	No
EV-3	Require routine handling of chemicals, increasing the potential for spills?		✓	No
EV-4	Require spill containment measures (ex.: diking, curbing, paving, etc.)?		✓	No
EV-5	Introduce chemicals which are classified by the EPA as hazardous materials?		✓	No
EV-6	Increase existing volumes or introduce new hazardous waste?		✓	No
EV-7	Increase plant waste volume?		✓	No
EV-8	Increase the required in-plant inventory or usage of hazardous chemicals (ex.: VCM, EVICAS, hydroquinone, water treatment chemicals, diesel, etc.)?		✓	No
EV-9	Have the potential to negatively impact the quality of plant wastewater (ex.: VCM loading, organic loading, pH, oil, dissolved metals, others)?		✓	No
EV-10	Increase the potential for firewater to reach the stormwater outfall?		✓	No
EV-11	Create a new point source for air emissions?		✓	No
EV-12	Add a relief valve in VCM service (will require the monthly relief valve checklist to be revised, and must have a rupture disk, if discharging to the atmosphere)?	✓		yes
EV-13	Add any new valve or other equipment which need to be monitored for emission?		✓	No
EV-14	Require that a chemical be imported into the U.S. (TSCA list status must be confirmed)?		✓	No
EV-15	Add VCM cooling or condensing equipment (may require cooling water sampling taps)?		✓	No
EV-16	Impair the ability to effectively clear new or existing equipment, piping, etc. of VCM for opening?		✓	No
EV-17	Introduce new pumps, compressors, agitators, or other rotating equipment in VCM service (refer to Environmental Manager for regulatory requirements)?	✓		yes
EV-18	Cause any continuous emission of air, water, or soil contaminates?		✓	No
EV-19	Add the potential for the release of intermittent air, water, or soil?		✓	No
EV-20	Require development of disposal methods for feeds, products,			

(Form Rev. 10-16-97)

EV-1 - REVIEW w/ ENVIRONMENTAL MANAGER
 EV-12 - DESIGN TO INCLUDE RV CHECK.
 EV-17 - SAME AS EV-1

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	intermediates, or waste streams?		✓	No
EV-21	Cause the need for addition of air pollution control equipment (i.e. Bag Houses, Flares, Scrubber, etc.)?		✓	No

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Personal Physical Hazards/Exposure

	Does the Change:	Yes	No	Further action req'd? Yes/No
PH-1	Cause the need to evaluate or revise an existing ventilation system (contact the Maintenance Manager for standard requirements)?		✓	No
PH-2	Increase employee exposure to fumes, airborne respiratory fibers, particulates, or other air contaminants?		✓	No
PH-3	Impact identified asbestos or ceramic fiber-containing material?		✓	No
PH-4	Add significantly to the noise level of the area or justify a new noise survey?		✓	No
PH-5	Introduce significant pinch points, bumping problems, or tripping hazards?		✓	No
PH-6	Cause someone to lift, carry, or move heavy items?		✓	No
PH-7	Create a confined or restricted work space for operators or mechanics?		✓	No
PH-8	Introduce a back injury potential?		✓	No
PH-9	Add tasks that introduce potential for repetitive motions injury?		✓	No
PH-10	Require personnel to be exposed to extreme cold for long periods?		✓	No
PH-11	Require that personnel wear poorly-ventilated clothing for long periods during warm weather (ex.: slicker suit)?		✓	No
PH-12	Increase the potential for heat-related stress?		✓	No
PH-13	Increase employee exposure to corrosive materials (ex.: caustic, acid, water treatment chemicals, EVICAS)?		✓	No
PH-14	Require container labeling per the HAZCOM policy (ex.: new storage container, changing the chemical in an existing container)?		✓	No
PH-15	Involve the construction of a inhabited structure or potentially endanger the inhabitants of an existing structure (This may require a formal siting study)?		✓	No