

## Settlement Motion Exhibit A: “Prospective Measures” Required By MSHA

### (a) American Society of Mechanical Engineers Boiler and Pressure Vessel Code

1. All new, year 1999-2000 vessels are in accordance with the ASME Code. All boilers were constructed and are maintained in accordance with ASME Code.
2. The revised Gramercy Pressure Systems Control Policy requires that maintenance of all pressure vessels and piping systems be in accordance with ASME Code.
3. Gramercy still has viable and safe equipment in use that was built and installed in the mid to late 1950's period. Some of this equipment was not constructed in accordance with current ASME Code. Much of it was constructed as American Petroleum Institute (API) class. There were not requirements at that time to conform with ASME Code and it is not feasible to apply the Code now. However, critical sections of the Plant were reviewed following the July 5, 1999 incident. It was found that certain heater vessels in HID and Evaporation had to be strengthened to meet the requirements of the new Gramercy operation. The vessels have been modified and the pressure ratings upgraded in accordance with professional engineering calculations. However, the older vessels do not have ASME codes.

### (b) Process Safety Management Programs (PSMP)

1. Gramercy has implemented the Operational Integrity Management System (OIMS) as its Process Safety Management Program. All 13 elements of Kaiser's OIMS Manual are being implemented:
  - Employee Participation
  - Operational Safety Information
  - Operational Hazard Analysis
  - Standard Operating Procedures
  - Training
  - Contractor Safety
  - Mechanical Integrity
  - Pre-Startup Safety Review
  - Safe Work Policies
  - Management of Change
  - Incident Investigation
  - Compliance Inspections
  - Emergency Response and Planning

(c) Pressure Relief Safety System Design Basis (PRSSDE)

1. The new Gramercy Digestion installation has been designed for Three Phrase flow (solids, liquids, vapors). The design was done by ICF Kaiser Engineers (Australia) who have proprietary programs to calculate all parameters and predict responses to process upsets.
2. The Digestion relief system has been designed to relieve 120% of designed maximum flow for each tank in the case of a fully blocked condition and the relief headers have also been designed to accommodate 150% of maximum design flow.
3. Additionally, pilot relief valves have been added to relieve at 90% MAWP, in order to reduce the potential frequency of opening the normal spring type relief valves.
4. The new Digestion relief headers are sloped to facilitate drainage in the case of a relief valve opening. The new main headers are 42 inches and 54 inches in diameter and should not be prone to plugging. There will also be a mandatory inspection program every 3 – 5 years and if required a clean out of the main headers will be done. The length of time between inspections will depend upon what is found in the initial inspection cycles. Temperature sensing devices have been placed in each relief header providing knowledge of relief valve lifts. Upon a lift, the cause will be determined and corrective action taken. If a sufficient number of significant events occurs, Kaiser will either run thermographic scans to determine if blockages have occurred or inspect the headers. In combination with the 3-5 yr mandatory inspection program, this process will be adequate to maintain the headers in operating condition. Temperature indicators have been installed in the relief systems so that any leakage or opening of the relief valves can be immediately determined and the cause corrected.

(d) Valve Supervision Program

Kaiser has updated all P&IDs for critical plant systems including identifying all valves. The engineering department's new pressure vessel engineer must approve any safety related valve modifications or changes, other than those included in normal operations. Kaiser's new Pressure Systems Control Policy, Section 6 ("the Blue Book") mandates specific policy and procedures, including audits to ensure compliance with company policy. The Blue Book is available for all employees and used in training. Kaiser has set up a relief valve tracking system that is set forth in Section 6 of its new Pressure Systems Control Policy. The digestion control room operator will be able to see the position of all process control valves from his video monitor. Moreover, the digestion control room operator will know the process flow path by the reaction of the process to the control valves. Further, Kaiser has a lock out/tag out system in place that will be used to identify any valves that have been adjusted for maintenance activities. The digestion shift supervisor has responsibility for the process and process

safety and will delegate to the control room operator, as appropriate, tasks associated with process control and process safety.

(e) Plant-Wide Evacuation Alarm System (PEAS)

1. Gramercy has an alarm to evacuate the plant in the case of a toxic gas release (nearby Chlorine Plant). It is activated from the guardhouse at the main plant entrance. The plant has a radio system for backup. The digestion control room can communicate instantly with the guard house by telephone.
2. Emergency response planning and training have been substantially improved, in coordination with the Louisiana State Policy and Parish Official. A plant wide system with both audio and visual notification, sourced from two locations with an emergency power backup will be investigated and a feasibility determination will be made.

(f) Emergency Operating Procedures and Training

1. Gramercy has just revised its major Standard Operating Procedures to include emergency shutdown procedures. Operators have and will continue to be trained and certified in these procedures.
2. Gramercy will participate in an MSHA review of these procedures and will upgrade them as required for safe operations.

(g) Digestion Area Specific Design Features

1. As required by MSHA, all new Digestion pressure vessels have been designed such that normal operating pressures are well below the MAWP and have an adequate safety margin between their MAWP and operating pressure. The relief tank does not have an MAWP since it is an open top tank.

| <u>Tank</u>       | <u>Normal, psig</u> | <u>MAWP, psig</u> |
|-------------------|---------------------|-------------------|
| Blow Off Tank     | 0                   | 70                |
| No. 10 Flash Tank | 8                   | 100               |
| No. 9 Flash Tank  | 14                  | 150               |
| No. 8 Flash Tank  | 22                  | 150               |
| No. 7 Flash Tank  | 38                  | 150               |
| No. 6 Flash Tank  | 55                  | 200               |
| No. 5 Flash Tank  | 75                  | 330               |
| No. 4 Flash Tank  | 100                 | 330               |
| No. 3 Flash Tank  | 140                 | 460               |
| No. 2 Flash Tank  | 195                 | 460               |
| No. 1 Flash Tank  | 270                 | 460               |

(h) Digestion Area Specific Operating Procedures

1. Standard Operating Procedures and a Maintenance Program for Digestion are currently in place and available for employee and MSHA review. Kaiser will brief MAHA personnel on the new plant and operating systems and procedures, as well as make available for MSHA's review copies of its operating procedures and policies.

(i) Training

1. The Gramercy Plant's Pressure Systems Control Policy covers maximum allowable working pressures, Pressure Relief Systems, and hazards associated with non-functioning pressure relief systems.
2. Special training sessions were conducted with supervisors, superintendents, and managers to ensure full understanding of this policy. Hourly employees receive this training as part of their orientation.
3. The training will be reviewed to ensure there is sufficient coverage concerning hazards associated with non-functioning pressure relief systems.

(j) Safety Showers and Eye Wash Stations With Self-Contained Water Sources

1. A search was conducted in an effort to find commercially available self-contained safety showers and eye wash stations, but no commercially available sources were found. However, the new Digestion Unit will have a water booster pump that is connected to the emergency generator system that will provide safety water to the area even under conditions of a total power failure.

(k) Workplace Examinations

1. Kaiser will conduct workplace examinations as required by MSHA standards and track them, and needed corrective actions, on the plant computer system.

(l) Training in Miner's Rights and Responsibilities

1. Kaiser will expand its training on employee rights and responsibilities regarding safety and health.

(m) Safety and Health Inspections

1. The Kaiser and USWA joint safety and health committee will perform a comprehensive safety and health audit of the Gramercy Works Facility no less than semi-annually, and report the results, in writing, to Kaiser and the USWA. Kaiser will respond to the audit results in writing within fifteen working days. For each item identified in the audit, Kaiser will state the date for abatement, the means of abatement, or the reasons why, in Kaiser's opinion, abatement is not necessary to protect employees or its infeasible. Copies of the response will be given to USWA. Kaiser will consider time spent on the audit and associated

meetings to be hours worked. The first audit will commence within sixty days from the date of the settlement agreement and will include a review of Kaiser's plans for rebuilding the plant and resuming production. Subsequent audits will consider both existing hazards in the facility, and the safety and health implications of changes to equipment or operating procedures planned by Kaiser.

2. (n) Documentation

1. Kaiser has and will continue to respond to MSHA document requests regarding regulatory compliance. Kaiser agrees to report to MSHA by letter, every six months for eighteen months, a summary of status of its efforts and activities described in this Exhibit, starting six months after the approval of a settlement motion.