

To: R. T. Krebs - Avon Lake Tech. Ctr.

November 16, 1989

Avon Lake Technical Center Safety Audit
October 16-20, 1989

Enclosed is the final report of the safety audit conducted at your facility.

The safety performance of the Technical Center through September, 1989 shows that you have experienced 21 recordable injuries of which one involved lost time. You also need to review your 1989 illness and may have to record several illness cases.

In the following chart, I have compared the Avon Lake Technical Center recordable and lost-time incidence rates to the BLS Chemical Allied Product rates, the CMA rates and the BFG Chemical Division rates.

	<u>BLS</u>	<u>CMA</u>	<u>CHEMICAL</u>	<u>AVON LAKE</u>
<u>1986</u>				
Rec. IR	6.00	2.45	4.78	1.89
Lost Time IR	2.70	.42	.72	0
 <u>1987</u>				
Rec. IR	6.50	3.93	4.13	2.16
Lost Time IR	3.00	.67	.78	.20
 <u>1988</u>				
Rec. IR	Not Available	4.16	4.65	4.42
Lost Time IR	"	.61	.80	.17
 <u>1989 YTD</u>				
Rec. IR	Not Available	3.45	4.27	4.36
Lost time IR	"	.52	.91	.21

The Tech Center was rated with 5 items - Needs Attention and 35 items - Satisfactory. I changed the rating on your ladder program to "Needs Attention" because of observations made by the Environmental Audit Team conducted two weeks after the safety audit. I also added 1989-9 Items to be Corrected with regard to ladders.

NGC 13041

The report format is laid out for you to write in your abatement program and indicate the status as Completed, In-Progress, or Incomplete. A progress report giving the status of the items requiring attention is due 60 days after receipt of this report. For your convenience, I have included the word processing disc on which you can enter your response.

The report includes the following:

- I. Favorable Observation *I*
- II. Items to be Corrected *A*
- III. Inspection Tour *II*
- IV. Housekeeping Evaluation *2K*
- V. Facility Safety Rating


Herm Waltemate

cc: R. J. Grahek/C. J. Nosal - w/o attachment
C. N. Bush/C.A. Daniels - " "
W. F. Patient " "
E. C. Martinelli " "
G. Krcmar/R. K. Schlatzer - " "
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I - FAVORABLE OBSERVATIONS

- (1) The Safety Monitors group continues to be an effective approach within the ALTC safety program.
- (2) The emergency training given to your fire brigade was excellent and places you in a good position with the new HAZWOPER requirements.
- (3) I was very impressed that I found only one electrical cord throughout the entire facility that needed repair. With the numerous electrical cords, this is noteworthy. I realize that some areas are behind schedule with their annual cord testing.
- (4) The housekeeping and orderliness of all the maintenance storage areas was outstanding.
- (5) The forthcoming J.T.Baker chemical training should improve the chemical safety awareness of all employees.
- (6) The VAX system for tracking the safety training provided is very effective.

Herm Waltemate
11/17/89

AVON LAKE TECHNICAL CENTER
SAFETY AUDIT
OCTOBER 16-20, 1989

II. Items to be Corrected

- 1989-1. A Facility Director's Safety and Health Policy needs to be developed and issued with R. T. Krebs' signature. It should be a clear and specific statement which expresses the Technical Center's management's commitment and beliefs. The policy statement should be reviewed with each member of supervision, and in turn, with all direct employees. The policy should be a living document used by management and supervision when making decisions. Management and supervision must demonstrate that their commitment to the policy is ongoing. Management must recognize that dedication to the Safety and Health program on a daily basis is required. I have attached the policies from the BFG Louisville and Deer Park plants. You may wish to use them as an example. I have also attached an article from the Professional Safety Journal which gives suggestions on developing a safety policy and using it.

Please send me a copy of the Avon Lake Technical Center's Safety Policy when it is finalized.

Response

<u>STATUS</u>	
☐	Completed
☐	In-Progress
☐	Incomplete

1989-2

The BFG Chemical Division Safety Team Leaders have established a new requirement involving "Hot Work". Safety Standard SA-123 Hot Work Permit has been revised accordingly. Continuous LEL monitoring is to be provided with all open flame (welding, cutting, grinding) in hazardous locations.

You need to purchase instruments to conduct this monitoring and incorporate this requirement into your plant safety procedure SAF G-6800 Hot Work permits and procedures.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-3

I would recommend that a Job Safety Analysis be conducted on the unloading, moving and storage of the one ton chlorine cylinders. The loss of the contents could have a serious impact on the local community. Currently you use a fork lift for unloading, store the cylinders on a pad and move them with a hand truck when you use them.

BFG Safety Standard SA-104 IV(3)(a) requires that one ton cylinders be stored in a cradle. You should follow this BFG Safety Standard and the Chlorine Institute Manual for the safe handling of one ton cylinders.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-4 You need to continue to conduct Process Hazard Analysis.
Please send me a quarterly status report on PHA's completed and
the actions taken with the resulting recommendations.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-5 A management system, which assures that corrective action is
completed, needs to be established for the Technical Center.
You should track such items as Narrative report corrective
actions, Safety Audit Items to be corrected, Industrial Hygiene
recommendations, and Internal OSHA Compliance Inspections.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-6

During the plant inspection, I observed five situations which have a high potential for a back strain or a shoulder strain. You should study each of these situations and review the plant for other similar potentials.

- 1) The floor surface in the CPVC area B/414, where the large drying cart is moved, is extremely rough.
- 2) In the Extruder Building, a 45 pound lump of mixed material is taken at floor level from the bottom of the mixer, picked up onto a platform and then onto the mill rolls. If this mill is being used as a production mill, a conveying system should be installed.
- 3) In the CPVC Area B/414, the addition of bags of Soda Ash from a portable platform is not a good arrangement. A fixed platform with adequate room and better access for dumping bags is needed.
- 4) Several years ago, a study in the BFG Chemical Group found that a large number of our shoulder strains and back strains involved bags which weighed in excess of 55 pounds. A BFG Chemical Division Safety Standard has been drafted establishing lifting requirements. During the facility inspection, some 80-100 pound bags of raw material were noted. You should set up a requirement with your purchasing department that limits the weight on bags of raw material.
- 5) The portable ramp to the Drum House needs to be replaced with a fixed ramp. It would be very easy for an injury to occur, if this ramp would shift while moving a drum on it.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-7

We were told that approximately 50% of the maintenance work performed in B/414 and B422 do not require a "Work Permit." These jobs usually involve capital projects. This seems to be excessive and should be reviewed from a safety standpoint. The requirements established in ALTC SAF G-5700 Maintenance Work Order and SAF G-5800 Work Permit should be evaluated.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-8

The Catalyst Storage in the Bunker Area needs to be upgraded. A BFG Chemical Division Safety Standard has been drafted setting minimum requirements and will be issued soon. You will need to make the following modifications:

- a) Dual temperature transmitters.
- b) Remote Temperature recorder.
- c) Temperature alarm in a constant attendance area.
- d) Backup freezer capacity in reserve.
- e) An emergency CO₂ system instead of dry ice.

You should review this draft standard and make the required revisions to your catalyst storage.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-9

During our facility inspection, we observed an employee standing improperly on a stepladder. I was told that the Environmental Audit Team also observed similar situations involving ladders.

It is recommended that you train your employees on the proper use of ladders and enforce the safety requirements.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-10

There is a concern with the proper storage and use of compressed gas cylinders at ALTC. Several Cylinders were observed with a loose single chain which was not sufficiently securing the cylinders. You may need to modify your storage areas and provide adequate devices for securing of the cylinders.

There was also a concern with the compressed gas cylinders utilized with the Smoke Lab. Several cylinders were being used and stored inside a closet. Some of the cylinders were not properly secured and oxygen cylinders were not stored separately. I also have a concern with the number of flammable cylinders inside this closet inside a building.

ALTC SAF G-5500 Compressed Gas Cylinders is a well prepared safety policy but compliance with it is lacking.

You should take the indicated corrective action.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

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NGC 13049

1989-11 Areas in which combustible dusts are handled are to be classified Class II, Group G, Division 2. The electrical equipment in these areas should be dust tight with a NEMA 4 or NEMA 12 rating. Electrical motors should be TEFC or TENV.

The Compound Recipe Make-up Room should be classified Class II and the electrical equipment should be changed accordingly.

You should also not permit open bags of material to be stored in the area. The bags should be resealed or placed in a container.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-12 It was observed in the Extruder Building that 30 psi air is commonly used for cleaning. Blowing dust with air is an ineffective method of cleaning. I would recommend that a central vacuum system be provided and the use of air be restricted.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-13 Building 422 and 417 contain a great deal of equipment which is no longer used. You need to develop a management system which removes equipment that is obsolete. This should be done on a regular basis and not just a "one time push."

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-14 The BFG Chemical Division's Safety Team Leaders have reviewed our history with regard to foot injuries and have decided that a 100% Safety Shoe Program is needed. You should proceed with implementing this requirement. It will include all BFG employees and contract employees who work in the plant and laboratories. It will not include individuals who are just touring the facility.

Response

STATUS

☐ Completed
☐ In-Progress
☐ Incomplete

1989-15 There is a confusion in the Technical Center with the requirements for grounding/bonding and providing self-closing valves on drums. These are required for flammable and combustible materials but they are not required with nonflammable or noncombustible materials. You should prepare a Safety Policy which covers this area and follow this policy.

During the facility inspection, several safety containers were observed in which the flame arrestor had been removed. These safety containers were being used for the collection of scrap material. It is not acceptable to remove the flame arrestor. If the flame arrestor becomes plugged, it should be replaced.

Response

STATUS

_____ Completed
_____ In-Progress
_____ Incomplete

1989-16 You need to review your existing procedures to verify that they cover the requirements of 1910.120 HAZWOPER(q) Emergency Response to Hazardous Substance Releases. You should also be sure you document the training given to comply with this standard.

The emergency response procedure needs to cover the following:

- (i) Pre-emergency planning and coordination with outside parties.
- (ii) Personnel roles, lines of authority, training, and communication
- (iii) Emergency recognition and prevention.
- (iv) Safe distances and places of refuge.
- (v) Site security and control.
- (vi) Evacuation routes and procedures.
- (vii) Decontamination.
- (viii) Emergency medical treatment and first aid.
- (ix) Emergency alerting and response procedures.
- (x) Critique of response and follow-up.
- (xi) PPE and Emergency equipment.
- (xii) Emergency response organizations may use the local emergency response plan.

Response

STATUS

____ Completed
____ In-Progress
____ Incomplete

1989-17 ALTC SAFG-6100 Safety Policy sets requirements for the use of AM/FM radios. Several areas in the Technical Center are not aware of this policy and have not gotten the radio approved by the Safety Department. You should review this policy to determine if the requirements are still valid and in turn comply with the policy.

Response

STATUS

 Completed
 In-Progress
 Incomplete

1989-18 There are 4 Industrial Hygiene situations that you should address and resolve before the Industrial Hygiene Audit scheduled for 1990.

- i) Proper storage needs to be provided for personnel protective equipment. Respirators were noted hanging on process equipment. Also respirators were noted hanging by the straps and causing the headbands to stretch.
- ii) Eating in areas where chemicals are being handled.
- iii) Gasket material being purchased which contain asbestos.
- iv) Insufficient labeling of process tanks, bags, drums and containers.

Response

STATUS

 Completed
 In-Progress
 Incomplete

1989-19 Numerous OSHA violations were observed during the facility inspection. each of the individual violations were listed in Section III Inspection Tour. The following is a list of the OSHA standards involved.

- 1904.2(a) Recording of illnesses
- 1910.22(a)(2) Floor not maintained dry.
- 1910.23(a)(2) Chains provided instead of gates.
- 1910.23(e)(1)&(2) Guardrail not provided.
- 1910.24(h) Handrail not provided on stairs.
- 1910.25(d)(1) Stepladder with broken step.
- 1910.25(d)(2)(xii)&(xx) Stepladder used improperly.
- 1910.30(a)(4) Dock board with no loops.
- 1910.37(k)(2) Exit door blocked.
- 1910.37(q)(1) Exit not identified.
- 1910.101(b) Compressed gas cylinders not secured properly and lacking required separation.
- 1910.106(a)(29) Flame arrestor removed from UL approved safety can.
- 1910.106(e)(2)(iv)(d) Self-closing valve needed on flammable drum.
- 1910.134(b)(6) Respirators not properly stored.
- 1910.134(f)(2)(ii) SCBA cylinder not maintained full.
- 1910.144(a)(1)(iii) Emergency stop not red.
- 1910.147(c)(5)(ii)(d) Lockout not tagged.
- 1910.157(a)(4) Fire extinguisher not sealed.
- 1910.157(c)(1) Fire extinguisher blocked.
- 1910.160(b)(7) Halon system not inspected semiannually.
- 1910.178(o)(2) Capacity not posted on forklift.
- 1910.178(q)(7) Daily (each shift used) inspection not performed on forklift.
- 1910.212(a)(4) Guard needed on drum revolver.
- 1910.212(b) Machine not secured.
- 1910.213(h)(4) Radial arm saw cutting head does not return to safe position.
- 1910.215(b)(9) Upper guard on bench grinder not within 1/4".
- 1910.219(c)(3) Guard needed on agitator shaft.
- 1910.252(b)(4)(ix)(c) Welding cable with damaged insulation.
- 1910.303(f) Individual electrical circuits not identified.
- 1910.303(g)(1)(i) Insufficient clearance in front of breakers.
- 1910.304(f)(4) Improper electrical grounding.
- 1910.305(b)(1) Plug missing in explosion proof switch.
- 1910.305(g)(1) Temporary cord in place of permanent wiring.
- 1910.399(a)(25)(ii)(a) Class II areas where combustible dust is handle
- 1910.1200(f) Labeling of bags, drum tanks and bottles.

You should be aware that OSHA inspections with major penalties are still occurring. USX Corp. was recently fined \$7.3 million for numerous alleged OSHA violations of safety and recordkeeping regulations.

NGC 13055

1989-19. (continued)

I have attached a 7 page list of OSHA violations which might be found in a chemical industry operation. You should use this list and the specific items pointed out during the audit to conduct a complete and thorough inspection of the Technical center. Each of the violations should be corrected.

Response

STATUS

____ Completed
____ In-Progress
____ Incomplete

ALTC SAFETY AUDIT
III. INSPECTION TOUR
OCTOBER 16, 1989

CPVC AREA

1. Cylinder on Scott Air Pak is not full as required. Refer to OSHA Standard 1910.134(f)(2)(ii).
2. The stairs crossover on the roof needs a handrail on both sides, a mid rail and a toeboard. Refer to BFG Eng. Standard. 1001 and OSHA Standard. 1910.24(h) and 1910.23(e)(1).
3. The old insulation and pallet should be removed from the roof.
4. The addition of bags of Soda Ash from a portable platform is not a good practice. A shoulder strain or back strain has a high potential with the current arrangement. A fixed platform with adequate room and better access for dumping bags is needed.
5. The wire supporting the glass piping needs to be removed or replaced with a proper pipe hanger.
6. The floor is very rough in the area where carts used for drying material are moved. Again, a high potential for a shoulder or back strain. Plans are underway to resurface the floor.
7. Airline respirator was left hanging in the piping. Also, ear muffs were hanging on a utility station. Proper storage needs to be provided for safety equipment. Refer to OSHA Standard 1910.134(b)(6).
8. The old hoist suspended on a cable should be removed or a monorail installed in place of the cable.
9. Several spiders were observed in the first floor area.
10. Housekeeping - 6 Meets Requirements.

PVC B/413, 414 AND 425

1. Observed an employee using the back support as step on a stepladder. Also, the employee was working on the next to top step which is not acceptable. Refer to OSHA Standard 1910.25(d)(2)(xii) and (xx).
2. Compressed air cylinder secured with wire.
3. The exit door on the ground floor was blocked. Refer to OSHA Standard 1910.37(k)(2).
4. On the second level a 1/4 ton chain hoist was hanging on piping. Piping should not be used to support a chain hoist.

5. The telephone booth needs to be replaced and the drum removed in the Statrite Scale area.
6. The airline respirators stored by hanging them with the straps is causing the straps to be stretched. The straps need to be replaced. Refer to OSHA Standard 1910.134(b)(6) and (f)(1).
7. PVA containers are not labeled. The material is a dust fire hazard. Refer to OSHA Standard 1910.1200(f)(1)(ii).
8. A jar of clear liquid was not labeled. Refer to OSHA Standard 1910.1200(f)(7).
9. The short stepladder should be disposed of.
10. Plans are underway to conduct Process Hazards Analysis.
11. Capital work is not signed in by area, if a hazardous work permit is not involved.
12. Housekeeping - 4 Meets Requirements.

PVC LABS

1. The door to the computer room, which has a Halon system, must be maintained closed or be self-closing if the Halon system activates.
2. The emergency light was not in working order.
3. The refrigerator in the lunch room is connected with an extension cord. Refer to OSHA Standard 1910.305(g)(1).
4. The individual circuits in breaker box PPKK must be identified. Refer to OSHA Standard 1910.303(f).
5. The emergency light in Lab 11 is not in working order.
6. A bottle of alcohol is not labeled. Refer to OSHA Standard 1910.1200(f)(7).
7. The Halon system must be inspected on a semiannual basis. Refer to OSHA Standard 1910.160(b)(7).
8. Housekeeping (construction in area) - 4 Meets Requirements.

AEDL

1. Noted four fire extinguishers in the area with the seals not in place. Refer to OSHA standard 1910.157(a)(4).
2. The emergency light in the area will not operate.

3. An exit sign is needed on the door leading to the exterior exit door. Refer to OSHA Standard 1910.37(q)(1).
4. A safety shower was blocked with material on a pallet.
5. The sheet metal brake and the drill press need to be secured to the floor. Refer to OSHA Standard 1910.212(b).
6. The radial arm saw should be installed so as to cause the cutting head to return to the starting position. Refer to OSHA Standard 1910.213(h)(4).
7. The circuits in the breaker box need to be individually identified. Refer to OSHA Standard 1910.303(f).
8. A 30" clearance needs to be provided in front of the electrical breakers. Refer to OSHA Standard 1910.303(g)(1)(i).
9. A daily inspection needs to be conducted on the forklift. Refer to OSHA Standard 1910.178(q)(7).
10. The capacity needs to be posted on the forklift truck. Refer to OSHA Standard 1910.178(o)(2).
11. Air compressor with the motor mounted on top of the tank. The supplier should be checked to verify that the welding of the mounting plate was performed within ASME code requirements. Numerous tanks have failed because of the vibration from the motor and improper welding on a vessel.
12. The relief valve on the compressor should be reviewed for proper size and added to the relief valve inspection program.
13. Housekeeping - 8 Exceeds Requirements.

B/423 ANALYTICAL LABS

1. The fire extinguisher in lab 410 should be lowered to avoid a back or shoulder strain.
2. Housekeeping - 8 Exceeds Requirements.

B/416 PHYSICAL TEST LABS

1. Two electrical breaker boxes were not provided with the required 30" clearance. Refer to OSHA Standard 1910.303(g)(1)(i).
2. The 3 cabinets in the area for the storage of flammables need to be vented to the outside.
3. Electrical cords need to be inspected in 1989.

4. Noted unauthorized storage of chemical samples in the dry ice storage chest.
5. The thermocouple wire, which is strung across the room, should be relocated or placed in conduit.
6. Bottom plug was missing on an explosion proof switch. Refer to OSHA Standard 1910.305(b)(1).
7. Relief valve on the hot water heater has not been checked since 6/88.
8. AM/FM radio is not tagged as required by ALTC Safety Policy SAF G-6100.
9. Housekeeping - 6 Meets Requirements.

10/17/89

B/418 HYDROPHYLICS LAB

1. Fire extinguisher blocked with a trash can. Refer to OSHA Standard 1910.157(c)(1).
2. Housekeeping - 6 Meets Requirements.

B/413 CARBOPOL LAB

1. No safety sticker on the AM/FM radio as required by ALTC Safety Policy SAF G-6100.
2. Too many electrical cords are connected to a single outlet in the office of #9 Lab. Refer to OSHA Standard 1910.305(g)(1).
3. Housekeeping - 3 Meets Minimum Requirements.

B/423 K700 & CARBOSET ANALYSIS LAB

1. The flame arrestor has been removed from the safety can for scrap material. Refer to OSHA Standard 1910.106(a)(29).
2. Chemical bottle not provided with a label. Refer to OSHA Standard 1910.1200(f).

B/423 HYDROPHYLICS LAB

1. The flame arrestor has been removed from the safety can for scrap material. Refer to OSHA Standard 1910.106(a)(29).
2. A guard needs to be provided on the small agitator shafts. Refer to OSHA Standard 1910.219(c)(3).
3. Housekeeping - 7 Exceeds Requirements.

B/416 GEON VINYL

1. No safety sticker on the AM/FM radio as required by ALTC Safety Policy SAF G-6100.
2. Housekeeping concern with jackets and lab coats being kept on the chairs.
3. The compressed gas cylinders in use and in storage in the closet need to be properly secured and the required separation provided. Refer to OSHA Standard 1910.101(b).
4. Housekeeping - 6 Meets Requirements.

WET LAB/BLACK LAB

1. Paint can in flammable storage cabinet without a label. Refer to OSHA Standard 1910.1200(f)(4).
2. The electrical cords have not been inspected in the current year.
3. Fiber cylinder stored on top of cabinet should be secured.
4. Light bulbs need to be replaced in the walkway.

COLOR-MATCH LAB

1. Too many electrical are connected to a single outlet in the office area. Refer to OSHA Standard 1910.305(g)(1).
2. Housekeeping - 6 Meets Requirements

SMOKE LAB

1. Electrical cord on the equipment in the hood needs to be repaired. Refer to OSHA Standard 1910.303(b)(1).
2. The electrical cords have not been inspected in the current year.
3. Housekeeping - 5 Meets Requirements.

BURN BUILDING

1. Stepladder in the area has a broken step. Refer to OSHA Standard 1910.25(d)(1).
2. Exit doors are not marked with signs. Refer to OSHA Standard 1910.37(q)(1).

3. The electrical adaptors do not meet the NEC for proper grounding. Refer to OSHA Standard 1910.304(f)(4).
4. Housekeeping - 6 Meets Requirements.

B/426 EXTRUDER BUILDING

1. The air cylinder on the Scott Air Pak is not full as required. Refer to OSHA Standard 1910.1321(f)(2).
2. The drums are not grounded properly, but there is a question if bonding and grounding is needed. The ALTC needs to develop a SOP which defines the requirements on drums.
3. Open bags of combustible dust in storage.
4. The lockout/safeout on the Banbury Mixer needs to be revised. Anytime an operator's hand breaks the plane of the raw material chute, a lockout/safeout needs to be installed.
5. A 45 pound lump of mixed material is taken at floor level from the bottom of the mixer, picked up onto a platform and then onto the mill rolls. If this mill is being used as a production mill, a conveying system should be installed.
6. The Carson Black weigh area looks good.
7. The plexiglass floor cover guard on the Buss Line mixer needs to be repaired.
8. The drain hose on the wire extruder line is a tripping hazard.
9. Air hoses are extensively used for cleaning. A central vacuum system should be installed to replace the air hoses.
10. Water on the floor is a slipping hazard. Refer to OSHA Standard 1910.22(a)(2).
11. The safety cradle on #8 Mill needs to be red. Refer to OSHA Standard 1910.144(a)(1)(iii).
12. Smoking should not be permitted throughout this building. A designated smoking area should be established.
13. The weigh room should be classified as a Class II Group G Division 2 area because of the combustible dusts being handled. The electrical equipment should be replaced with NEMA 4 or 12 enclosures. Refer to OSHA Standard 1910.399(a)(25)(ii)(a).
14. Banbury platform gate not in a secured position. It is also pinching electrical cord on the electric lift truck.
15. Housekeeping - Seven (7) Exceeds Requirements.

10/19/89

B/422 MAINTENANCE

1. The upper guard on two grinders need to be adjusted to within 1/4" of the wheel. Refer to OSHA Standard 1910.215(b)(9).
2. There were two AM/FM radios without the required safety sticker.
3. The fire extinguisher in the welding shop is not sealed. Refer to OSHA Standard 1910.157(a)(4).
4. The welding cable should have a proper splice and not just taped. Refer to OSHA Standard 1910.252(b)(4)(ix)(c).
5. Gasket material should be replaced with a type containing no asbestos.
6. No label on a bottle and a jug. Refer to OSHA Standard 1910.1200(f)(4).
7. Exit sign needs to be provided on 2 doors. Refer to OSHA Standard 1910.37(q)(1).
8. Red light on material lift is not operating.
9. Housekeeping - 9 Near Perfection.

B/404

1. Stairways are required to have a midrail. Refer to OSHA Standard 1910.24(h) and 1910.23(e)(1)&(2).
2. Chains on the platforms need to be replaced with gates. Refer to OSHA Standard 1910.23(a)(2).
3. The Radial arm saw must return to the original position when the handle is released. Refer to OSHA Standard 1910.213(h)(4).

B/429 WAREHOUSE

1. An electrical breaker box does not have the 30" clearance required. Refer to OSHA Standard 1910.303(g)(1)(i).
2. Broken bag of powder in U-7-2 rack.
3. Capacity not posted on forklift. Refer to OSHA Standard 1910.178(o)(2).
4. Materials are being received in bags which exceed 55 pounds:

100 pounds - Sodium Nitrite
100 pounds - Calcium

hloride

80 pounds - Granulated Salt

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NGC 13063

5. The relief valve on the hot water heater has not been inspected.
6. The emergency lights in the office area are not working.
7. The dock plate must be equipped with loops for safe lifting. Refer to OSHA Standard 1910.30(a)(4).
8. A speed limit sign needs to be posted for traffic entering the facility.
9. Housekeeping - 7 Exceeds Requirements.

COMPUTER BUILDING

1. Additional outlets are needed to eliminate the extension cords. Refer to OSHA Standard 1910.305(g)(1).
2. The Halon system must be inspected on a semiannual basis. Refer to OSHA Standard 1910.160(b)(7).
3. The individual circuits in the breaker box must be identified. Also, the space where a breaker has been removed must be covered. Refer to OSHA Standard 1910.303(b) and 1910.303(f).

B/427 PIPETESTING

1. Nitrogen cylinders not properly secured. Refer to OSHA Standard 1910.101(b).
2. Electrical cords have not been inspected in the current year.
3. Door needs an exit sign. Refer to OSHA Standard 1910.25(d)(1).
4. AM/FM radio is not tagged as required by ALTC Safety Policy SAF G-6100.
5. The Fixed ladder on the upper platform needs to have a gate installed. Refer to OSHA Standard 1910.23(a)(2).

B/423 LATEX

1. Fire extinguisher needs to be mounted on the wall.
2. A chemical scrap jug was not labeled. Refer to OSHA Standard 1910.1200(f)(4).
3. The individual circuits in the breaker box need to be identified. Refer to OSHA Standard 1910.303(f).
4. AM/FM radio without the tag required by ALTC Safety Policy SAF G-6100.

NGC 13064

5. The shelves inside the refrigerator are full and are starting to sag.
6. The "Hot" sign needs to be relocated so it is not blocked.
7. The compressed gas cylinder storage outside needs a better method for properly securing of the cylinders. A single chain for several cylinders is not effective. Refer to OSHA Standard 1910.101(b).

B/413 STATRITE

1. CO₂ Fire extinguisher not sealed. Refer to OSHA Standard 1910.157(a)(4).
2. Respirator left hanging on process equipment. Proper storage needs to be provided. Refer to OSHA Standard 1910.134(b)(6).
3. Storage and process tanks need to be properly labeled. Refer to OSHA Standard 1910.1200(f).

ICE HOUSE

1. Housekeeping and storage of chemicals is very poor - 1 Does Not Meet Minimum Requirements.

B/419

1. Cylinder storage rack needs a better method for securing cylinders. A single chain cannot properly secure several cylinders. Refer to OSHA Standard 1910.101(b).

TANK FARM AREA

1. Gates need to be removed from the abandoned walkways and replaced with a standard handrail.
2. The Scott Air Pak cylinder must be maintained full. Refer to OSHA Standard 1910.134(f)(2)(ii).

B/425 BUNKER BUILDING

1. Drums located on south side outside of the building are not labeled. Refer to OSHA Standard 1910.1200(f)(5)(i)&(ii).
2. Box of hazardous materials stored in the Entrance area.
3. The Catalyst Storage needs to be upgraded. A BFG Chemical Division Safety Standard has been drafted setting minimum requirements and will be issued soon.

You will need to make the following modifications:

- a) Dual temperature transmitter.
 - b) Remote temperature recorder.
 - c) Temperature alarm in a constant attendance area.
 - d) Backup freezer capacity in reserve.
 - e) An emergency CO₂ system instead of dry ice.
4. Housekeeping - 1 Does Not Meet Minimum Requirements.

B/422

3RD FLOOR - HYDROPHILLICS

1. Individual circuits in the breaker box inside the Control Room need to be identified. Refer to OSHA Standard 1910.303(f).
2. Electrical cords have not been inspected within the current year.
3. 80 Pound bag of salt and 100 pound bag of Aluminum Sulfate in the old Bottle Poly room. 55 Pounds should be the maximum weight for materials in bags.

3RD FLOOR - HYCAR PILOT PLANT

1. Stairs need to be provided with a handrail and midrail on both sides. Refer to OSHA Standard 1910.23(d)(1)(iii).
2. The Ammonia bottles are required to be labeled. Refer to OSHA Standard 1910.1200(f).
3. Acetone drum must be equipped with a self-closing valve. Refer to OSHA Standard 1910.106(e)(2)(iv)(d).

B/422 (Continued)

3RD FLOOR - POLYMER CHEMICAL AREA

1. The manhead on the orange tank needs to be placed in a safe position.

2ND FLOOR

1. Process tanks are required to be labeled. Refer to OSHA Standard 1910.1200(f).
2. Fire extinguisher not sealed. Refer to OSHA Standard 1910.157(a)(4).
3. Flammable liquid drum requires a self closing valve. Refer to OSHA Standard 1910.106(e)(2)(iv)(d).
4. The platform in the Cyanobrik area needs to be equipped with a gate. Refer to OSHA Standard 1910.23(a)(2).

FIRST FLOOR

1. Chemical bottles not labeled. Refer to OSHA Standard 1910.1200(f)(7).
2. Fire extinguisher not sealed. Refer to OSHA Standard 1910.157(a)(4).
3. A guard is required on the spinning drum rack. Refer to OSHA Standard 1910.212(4).
4. Cradles are required for the storage and use of One Ton Chlorine Cylinders. The handling of One Ton Chlorine Cylinders should be reviewed.
5. The portable ramp to the Drum House should be replaced with a fixed ramp.
6. Obsolete equipment needs to be removed from the building.
7. Housekeeping - 3 Meets Minimum Requirements.

B/416 LAB

1. Sigma Blade mix locked out and not tagged. Refer to OSHA Standard 1910.147(c)(5)(ii)(D).

ESTANE POLY LAB

1. Smoking should be restricted to the immediate desk area.

IV. HOUSEKEEPING EVALUATIONS

• Maintenance Shop	9	Near Perfection
• AEDL	8	Exceeds Requirements
• B/423 Analytical Labs	8	Exceeds Requirements
• Yards & Grounds	7	Exceeds Requirements
• B/429 Warehouse	7	Exceeds Requirements
• B/426 Extruder Building	7	Exceeds Requirements
• B/423 K700 & Carboset Labs	7	Exceeds Requirements
• CPVC Area	6	Meets Requirements
• Burn Building	6	Meets Requirements
• B/416 Physical Test Labs	6	Meets Requirements
• B416 Color-Match Lab	6	Meets Requirements
• B/418 Hydrophylics Lab	6	Meets Requirements
• Wet Chem & Testing Labs	5	Meets Requirements
• B/416 Smoke Lab	5	Meets Requirements
• B/414 & 425 PVC	4	Meets Requirements
• B/413 PVC Labs	4	Meets Requirements
(Construction Ongoing)		
• B/414 & 422 Process Areas	3	Meets Minimum Requirements
(Obsolete Equipment & Hoses on Floor)		
• B/413 Carbopol Lab	3	Meets Minimum Requirements
• Ice House	1	Does Not Meet Minimum Requirements
• Bunker Building	1	Does Not Meet Minimum Requirements

V. BFGOODRICH CHEMICAL SAFETY PROGRAM RATING

LOCATION: Avon Lake Tech.Ctr.

DATE OF AUDIT: October 16-20, 1989

RATING ORGANIZATION AND ADMINISTRATION

S Management and Supervision Involvement
NA Compliance with Previous Audits (Refer to 1989 5 & 19)
NA Preparation and Compliance with Job Procedures
(Refer to 1989-7, 10, & 17)
S Procurement and Introduction of New Chemicals and Equipment

EDUCATION, TRAINING AND MOTIVATION

S Contractor Training
S Safety Counseling
S Accident Prevention Achievement Recognition
S Fire Preparedness
S Supervisor Training
S Employee Safety Training
S Hot Work Training
S Lockout Training
S Vessel Entry Training
S Forklift Trailer Entry Training
S New Employee Indoctrination
S Safety Meetings
S First Aid
S Off-The-Job Safety

GENERAL HAZARD CONTROL

S Quality of Housekeeping Program
S Housekeeping Conditions
S Internal Safety Audit
S Equipment Guarding
S Safety Equipment
S Hoisting Equipment
S Electrical Equipment
S Drum Handling System
S Forklift Trailer Entry
S Community Emergency Planning
NA Ladder Program (Refer to 1989-9)

PROCESS HAZARD CONTROL

S Relief Valve and Rupture Disc Inspection
S Flame Arrestor and Vent Line Inspection
S Plant Evacuation
S Disaster Preparedness
NA Hot Work System (Refer to 1989-2)
S Lockout System
S Vessel Entry System
S Maintenance Work Order System

ACCIDENT INVESTIGATION AND ANALYSIS

S Accident Investigation by Supervisor
S Management Systems Investigation
NA Corrective Action Follow-Up System (Refer to 1989-5)

The Status of the Individual Components Will be Indicated by:

S - The Program Element
is Satisfactory

NA - The Program Element
Needs Attention

TOTAL SATISFACTORY: 35

TOTAL NEEDS ATTENTION: 5

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