

Robert F. Kohr.

memo sheet is sized to ISO metric standard B6
148 x 176 mm

To: PRA

Re P12 Carbon Dumping Area!

What is the exposure with regard to polluting
dumped into old strip mines?

Although this report is not from
an unbiased source, I found it
useful & informative. I give it a

7 on a scale of 1 to 10

RECEIVED
MAR 30 1981

PATRICK R. ATKINS

This is a good summary
I think all plants should
prepare a yearly status report.



1501 Alcoa Building
Pittsburgh, Pennsylvania 15219

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PRA last

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Furnish
Env Control

PERFORMANCE OF
ENVIRONMENTAL CONTROL DIVISION
1980

C35625 0002

PERFORMANCE OF
ENVIRONMENTAL CONTROL DIVISION
1980

R. L. PARSONS
1981 JANUARY

C35625 0003

Following is a recap of the performance of the Warrick Environmental Control Division for 1980. Those goals which were controllable by Alcoans were met, for the most part. A few items where we are at the mercy of regulatory agencies were not met. Even for those, major progress has been made and solutions are expected at any moment.

While the primary function of this division relates to the Warrick Operations, considerable effort goes to address the needs of the Alcoa Generating Corporation. Performance is discussed under the headings of Industrial Hygiene, Liquid and Solid Waste Disposal and Air.

INDUSTRIAL HYGIENE

This is the first full year Warrick has had a trained hygienist. This plant was in fact the first plant to be so staffed. The incumbent, Ken Karsten, has built on the 7 month foundation of 1979, assessing the priorities, developing a relationship both with the union and management, establishing credibility for Alcoa with OSHA - Federal and State. During the year Ken was the management co-chairman of the Joint Hygiene Committee, the chairman of a task force to minimize use of asbestos and delegated the responsibility for coordinating audiometric efforts at Warrick. The total hygiene function has been performed with a full time Senior Industrial Hygienist and an Industrial Hygiene Specialist with help from a summer intern.

One of the major efforts we've made is direct communication about health effects for people who participated in sampling programs.

Coal Tar Pitch Volatiles

This is an emotional subject because of the carcinogenic effects. The 1979 effort provided the basis for engineering/production changes to eliminate CTPVs if possible. We supported those efforts by repeated samplings in the electrode plant, demonstrating the success of the programs. We assisted in establishing and communicating results of Complete Blood Counts by the Medical Department of people who have worked in the electrode plant. Our data served as part of the justification for the R/A to construct a carbon baking furnace. Replacing four kilns will aid in improving the work environment.

Although we had planned to press for substituting cold seam mix in cathode production, tests in the workplace didn't support a major effort for 1980.

Asbestos

There are several areas of concern about exposure to asbestos, although they are all in control.

- a. The mold repair shop in 134 and repair area in 344 are tested twice yearly. No problems occur when SOPs are followed.
- b. We were often involved in areas of furnace demolition - testing, evaluating exposures, developing safe work practices, selecting personal protective gear and helping to justify a vacuum system dedicated to asbestos cleanup.

- c. The asbestos substitution task force has been reactivated. Some areas of concern remain; transite duct in potroom fume system, thermocouple wire insulation and molten metal marinite.
- d. We spent considerable time in personal education without developing a general video program. We still plan such a program with emphasis on work practices and personal protective equipment.

Heat Stress

In late spring of 1980 we and the Safety Department made presentations to all potroom crews on work practices. We also bought a second heat evaluation device (WIBGET) and updated training for the security force. That group gets on-the-spot environmental measurements immediately after any heat stress case is reported. We will review these measurements during the first quarter.

Carbon Monoxide

This is a problem in only two major areas of the plant - in the tunnel kiln building and around the annealing furnaces. Both use inert gas streams. We've assisted in setting up sampling schedules for process control people and in interpreting results.

Chromic Acid

Use of this material and hence potential problems is limited to the preplines and handling of waste to and at Bldg. 877.

This is another emotional subject because of a wealth of misunderstanding of the hazards. Technical and news media have aggravated the problem.

Workers in Finishing have grieved to OSHA, prompting visits and inspections by federal hygienists. OSHA investigators have found no violations, but we have spent a great amount of time testing and counseling the employees. The most obvious hazard was to six mixer operators in Bldg. 819 who routinely opened and dumped 100 lb cans of dry (and dusty) Chromic Acid powder each week to prepare part of the A272 solution.

Although we made that job safe by designating appropriate safety equipment, establishing work practices, training and testing, we were also instrumental in converting to a Chromic Acid solution, delivered pre-mixed by tank truck.

We had previously set up a medical program to make nasal examinations of people who work with Chromic Acid. Of the 189 who were eligible, 158 reported to medical. The results were uneventful.

Noise

With one major exception, we completed a noise level survey of the plant on a 25 foot grid. The purpose is to delineate high and low noise areas. This allows us to concentrate engineering efforts where needed, or to require an audiometric program. The unfinished area is anode assembly where it is counter-productive to measure until the modernization is complete.

We had planned to purchase new dosimeters and a sophisticated device for reading the accumulated exposures, but we have not done so.

A combination hygiene/medical program to test hearing ability of people who work in high noise areas continued. We have not yet had any cases of hearing loss where anyone filed for compensation or we had to offer a change of jobs.

Plans to develop a Warrick Sound/Slide presentation have been set aside because the corporate hygiene division is planning such a program.

Warrick would have been well on the way to computerizing its data storage and retrieval but this, too, has been preempted by the corporate division.

We had two routine visits from HCNC, Inc. the audiometric consultants under contract to Pittsburgh.

Chlorine

We had planned to establish exposure profiles in the ingot plant, the only area where chlorine is a real concern, but this fell by the wayside. Early in the year OSHA established a new and very stringent exposure standard which was challenged in court by industry. This was finally resolved in OSHA's favor in the last quarter of 1980. Therefore we will be doing intensive surveys in 1981. We have, of course, made numerous sporadic checks of the workplace. The new standard will be a problem to us.

Chlorinated Solvents

These are used in several parts of the plant but most of our concern has centered in the roll shop area of the east end of Bldg. 816. There we have a large temporary solvent degreaser. This division has investigated numerous complaints and has established safe work practices. Exposures are limited by OSHA standards, and new installations are controlled by Indiana regulation 325IAC8 (as is the coating line).

Copper

This is one of what the hygienists refer to as metal fume problems. As such it has serious health connotations and we decided to study it. Fortunately, exposures are low, limited to a few people and limited to a small area (Bldg. 132). We plan to check this when the anode assembly modernization is complete.

Welding Fumes

The potential hazard might be likened to the copper problems, except that welding occurs anywhere in the plant. Thus far the only area of concern turned out to be welding exposure to chromium and nickel at the prepline. We have instituted safe work practices and respiratory protection.

Silica

This is not a major problem although we've done some testing. Some of the insulation used in the Hall cell rebuild contains SiO₂ but exposure is quite limited. We've replaced asbestos

cloth with a glass fiber material. There was considerable alarm when we received one shipment of bad material. We're beginning to compile a catalog of materials which contain crystalline silica.

Polychlorinated Biphenyls (PCBs)

This is a group of synthetic oils with the likelihood of being the worst environmental problem at Warrick. PCBs, although hazardous (as declared by USEPA), are good insulating fluids and hydraulic fluids. Manufacture in this country is now forbidden and handling/disposal practices are spelled out in infinite detail.

The engineering division has cataloged all uses in the plant (we think). We have established handling and disposal practices and trained numerous groups of people.

Urinary Fluoride Survey

Despite concentrated efforts by various groups of people, Warrick has never met the goal of 75% participation of eligible people. We did get to 69% in the fall of 1980. Most significantly, Warrick convinced Pittsburgh that the pre-work sampling, done every spring in every plant, can be dispensed with. That eliminates one-third of the routine fluoride work in every smelter and allows us to concentrate our efforts on the few people with excessive levels.

TOSCA

The Toxic Substances Control Act requires us to post in the workplace a notice of procedures. These let any employee question the hazards of any new product. Procedures are involved and are administered by the Industrial Hygienist. There have been only two requests in 1980 and neither met the criteria for concern.

In a similar vein, the Industrial Hygienist administers an OSHA program to provide exposure data to any person who asks. Thus far there have been no inquiries.

Hydrogen Sulfide

This is a toxic substance which is generated in our plant by bacterial action on used rolling lubricants. Until we activated Bldg. 871E to strip the last traces of oil from coolant water, the problem was virtually non-existent. H₂S was generated where there was plenty of air for dilution. In the confined spaces of 871E, however, the problem became serious. We spent considerable time testing, evaluating, recommending alternate solutions and communicating with the work force. This effort allowed us to negate a union complaint to USOSHA without an inspection.

Materials Inventory

In the early 60's we had prepared an inventory of potentially hazardous materials used in this plant. We've started to revise this very out-of-date collection, but will not complete it until 1981. In part, we are waiting for some specialized

information from Pittsburgh. Meanwhile we continue to screen all new materials for hazards.

Joint Management/AWIU Industrial Hygiene Committee

This group was mandated by a contractual agreement and meets regularly on the second Wednesday of each month. The Union representation is five or six people while management is represented by the Industrial Hygienist (as co-chairman), the Safety Supervisor and the Environmental Control Manager. The union members have grown in knowledge and stature during 1980. They have observed various kinds of sampling, have observed numerous communication sessions with employees, and have acted as a calming influence on the workers in disputes over hygiene matters.

Industrial Hygiene Committee

This group of carefully selected management people has had minimal involvement in 1980. Originally chosen to serve as thought leaders and help provide awareness of hygiene needs across the plant, that purpose is now handled daily by the hygienist and his assistant. There are other less significant reasons for this committee. In 1981 we will either redefine its purpose or recommend its disbanding.

Respiratory Protection Program

This responsibility is shared with the Safety Division. Complete reorganization of that division in 1980 slowed down our efforts but we did reevaluate the needs in the Smelting area and made some improvements. Our program was examined

as part of an OSHA asbestos complaint. While no citations were issued, it did emphasize the need for more effort.

Professionalism

Ken Karsten, our Senior Industrial Hygienist, successfully completed examinations and became a Certified Industrial Hygienist by the American Board of Industrial Hygiene. As part of the continuing requirement to maintain this certification, he attended the joint AAIH/AAOM/AST Conference in October. Ken has also attended professional seminars on PCBs and the Welding Environment. Within Alcoa Ken attended and assisted in a corporate technicians training conference at Pittsburgh. He also participated in a corporate management training conference in Pittsburgh.

Ken has agreed to author a chapter on Health Hazards in the Aluminum Industry in a book being assembled by Dr. L. V. Cralley, former Industrial Hygiene Manager for Alcoa. Each chapter will be about a different industry. Each author must be a Certified Industrial Hygienist. We have volunteered Ken's name to Dr. Dinman to be offered as Alcoa's delegate to the next convention of the International Primary Aluminum Institute.

Regulatory Activity

Most hygiene activity involving these agencies is with USOSHA or IOSHA, usually initiated by an employee complaint. We've had three such involvements in 1980. All were handled with no citations being issued.

LIQUID AND SOLID WASTE

The responsibility for this area belongs to W. P. Mitchell, Staff Environmental Control Engineer.

Old Landfill

This site of about 40-45 acres just west of Darlington Road has not been used since the spring of 1978. A condition of the permit required it to be properly graded, covered with two feet of soil and then with vegetation. This was not done in a timely way. However in 1979 we persuaded the state to allow us to use one foot of flyash followed by a foot of soil. This job was completed in the late summer of 1980. Sudan grass was planted and a crop taken before winter. The total job was expensive but we were able to grade, cover and seed some adjacent areas at the same time. The State has approved our efforts and the old landfill is officially closed.

Improve Discharges 001, 004, 005

In 1979, with permission from the State, we had modified these discharges to drain to ashpits and thence to 103. Our efforts had not been adequate. Early in 1980, with special approval from the State to bypass these discharges for limited times, we made modifications to the sumps. This made considerable improvement but left us with some further needed activity in 1981. 001 overflows after minimal rainfall because of the large watershed it serves.

004 is a problem at random times because of the high suspended solids content.

Phenol

This is a natural by-product of the anode baking process with numbers as high as 30 mg/l being found in tunnel kiln waste water. Throughout 1980 there was no specific level we were required to meet. However it seemed apparent that phenol would be considered hazardous and a stringent level would be applied to our discharges. Our goal to have one or more waste treatment techniques evaluated was only moderately successful. Any actual experiments will have to be carried out by Environmental Engineering. They have other items with more priority.

Carbon Dumping Area - Southeast corner of plant

This 8-9 acre site, part of which was the original staging area for the kilns and potlines, has been a dumping ground for dug potlining and butts for years. In 1977 we arranged to remove 35,000 tons of dug potlining for burial in the strip mined area. That left huge piles of butts with some admixed potlining. There was no backup method of disposal, so when Point Comfort couldn't take what we generated, more potlining went to this site.

In mid 1980 we "bit the bullet." The butts were moved for holding at a contractor's site. Everything else, including

surface soil was hauled to an approved landfill at Terre Haute. This division negotiated the necessary permits from the State Solid Waste Division.

Cyanide in Discharge 106

Cyanides are by-products of the Hall process with significant amounts ending up in the spent potlining. Over the years major parts of the 8-9 acres in the previous item have become contaminated. Rain run-off dissolved some cyanides causing excursions above the limit of the NPDES permit.

After cleaning up the area we took core drillings that indicated no significant cyanide or fluoride contaminations remaining. It is our intent to cover the area with clean fill when the new ring furnace is excavated.

Meanwhile, we have begun to see high cyanide values in 106 after heavy rains. We and the Environmental Engineers have a control program in mind for immediately after the end of 1980.

Dug Potlining

Warrick generates about 225 tons a week. The only method we and the rest of Alcoa have for disposal is shipment (usually by rail) to Point Comfort. We keep a hopper car spotted in the plant so that potlining can be carried directly from Bldg. 136 to the car. One has to wonder how long Point Comfort will be available to us. As far as I know, Alcoa has no viable alternative process for treating potlining.

In an emergency we would be faced with trying to haul the material to an approved hazardous waste landfill. At present, we are looking seriously at a possible Warrick hazardous waste landfill.

Contracting Out Waste Disposal

It is our custom at Warrick to use licensed (permitted) haulers to move waste material over the road, i.e., off Alcoa property. Even before RCRA the complexities of meeting all the requirements for hauling and disposal indicated a need for a coordinator. Bill Mitchell has the responsibility to select and evaluate haulers, assisting the purchasing department in setting up contracts. Most liquids and sludges are hauled by Commercial Sewers Corporation.

In 1980 because of the Office of Surface Mining Act, we were prohibited from using the old stripper pits as waste disposal areas. Bill developed contracts with ILWD, Inc. in Indianapolis, with Victory Disposal Corp at South Terre Haute, with Enviro-Chem and the North Side Landfill, these last two being at Zionsville, IN. In the case of Terre Haute, the owner, Gibson Trucking insists on doing the hauling. Because the settling times at Warrick's sewage treatment is inadequate, a contractor routinely pumps sludge and hauls it to the Evansville Treatment system. In each case of different material Bill has negotiated a separate permit.

Waste Disposal Training

Bill Mitchell has prepared and updated a Spill Prevention Control and Countermeasure Plan and conducted training sessions for maintenance people who will make it work. He's also prepared a manual for operation of sanitary landfills and trained the landfill operators.

Control of Landfill

Originally the present landfill needed only three monitor wells. The State has now required a total of ten. These have been installed. Mitchell has arranged a contract to have these sampled and analyzed monthly. He monitors this program and makes quarterly reports to the State.

University of Evansville project

As the result of a Notice of Violation regarding discharges, we paid \$20,000 toward a fine of \$90,000. We negotiated a contract with the U of E for \$70,000 to sample the Ohio River 10 or 12 times in a 12 month period. They are to analyze the samples for the 129 priority pollutants. The last of these samples was collected in mid December. The project should be closed before the second quarter of 1981.

NPDES Program

Permit No. IN 0001155 was briefly extended in 1979 and finally expired on 1979 December 20. This permit covered the

various liquid discharges from Warrick and the power plant. We made timely application for renewal but the State has been foot-dragging. Now however the State is concentrating on developing a new permit. The draft we have seen is favorable to us and reflects the massive effort coordinated by Bill Mitchell and Alan Miles.

Typical monthly reports of our monitoring efforts now show only 10 or 20 violations and many of these are barely outside limits.

The draft we've seen gives us a little leeway regarding oil and grease limits and suspended solids limits, so we'll look even better. None-the-less there will have to be increased engineering and operating efforts for some treatment systems if we are to meet the goals we've set for ourselves.

Environmental Cost Program

This program, designed by Bill Mitchell and George Thorpe in mid 1979, is a useful tool. In 1980 we've continued to refine the data base. More work remains. This information is perhaps used more by the maintenance division at the moment than by anyone else, although we supply it to Pittsburgh.

Polychlorinated Biphenyls (PCBs)

This subject was referred to under Industrial Hygiene. However, there is probably more legal concern over the handling and disposal as an environmental matter. The USEPA has published

voluminous regulations on the subject. Bill Mitchell has developed the necessary plans for collection and disposal and has implemented them.

RCRA (Resource Conservation and Recovery Act)

This is a meticulously detailed plan of the USEPA aimed at recycling and reuse, where possible, of waste materials and the closing of all dumps. At the beginning of 1980 we had no concept of how much work this would mean. During the second half of the year Bill Mitchell spent well over half his time on RCRA.

It was necessary, by August 19, to apply for an EPA Identification Number which could only be done after an assessment of Warrick's wastes. Bill did apply for a number and it has been granted. By November 19 it was necessary to catalog all hazardous wastes and develop handling procedures. This was done, and the second part of the RCRA application was submitted in a timely way. Bill is the coordinator for this system and has established and implemented waste handling procedures.

After November 19, no hazardous material may leave our plant except under the most rigorous conditions. These include proper identification and packaging, use of a permitted carrier and disposition in a permitted landfill or other final treatment.

Sigeco did not apply for an I.D. number for the Warrick Power Plant. In November Bill made the necessary applications for Alcoa Generating Corporation and on December 31 USEPA issued

an I.D. number. The power plant will have minimal hazardous waste but without the number it would have been impossible to move any such material outside the plant for final disposition.

Wetlands Controversy

When we built the last flyash pit ("C") we did not seek permission from the U.S. Corps of Engineers. We were cited for having built partly in a wetland without permission. With significant help from Pittsburgh Legal a settlement was obtained in 1980. We agreed to set aside for 50 years, certain other acreage nearby as a wildlife management area, to be managed by the Indiana Department of Natural Resources.

NPDES Quality Assurance

The USEPA has instituted a program to check the quality of work performed by laboratories. They have sent Warrick a series of standard samples with contents related to our NPDES Permit. Bill Mitchell coordinated the Warrick effort. We are still awaiting feedback from EPA.

A&F Materials, Inc.

At one time we used this company as a hauler/disposer of waste sludges. When we determined some of their practices were shoddy, we terminated the contract. The USEPA is bringing action against the owners. Under portions of the Clean Water Act, EPA demanded certain records from us.

Working closely with Pittsburgh Legal, we turned over a mass of records. Thus far, we have had no feedback except that a similar request for information has been made to Lafayette Works.

Other Permitting Effort

Although no final company decision has been reached, there is strong interest in using once-through water for casting. Although I am personally opposed to the philosophy of using more water instead of less, I negotiated a permit with the State to construct the wells, alter the sewer system and set up a monitor/sampling station. This will probably be resolved in 1981.

Professionalism

Mr. Mitchell has attended the following training sessions:

- a. A corporate environmental seminar in Pittsburgh sponsored by Dr. Atkins.
- b. The WPCF National Convention in Las Vegas at which time Dr. Atkins conducted a seminar on waste ~~handling~~ ^{management}.
- c. An EQC-EPA workshop on RCRA in Indianapolis.
- d. A State Chamber of Commerce seminar on disposal of Hazardous & Chemical Waste.
- e. A Dow Chemical Company Seminar on RCRA - Chicago.

AIR

The responsibility for this area belongs to Douglas R. Wilson, Senior Environmental Control Engineer.

Warrick County Attainment Status

The revised State Implementation Plan (SIP) declared this county to be attainment with regard to total suspended particulates (TSP). Warrick measures TSP every third day at monitoring Station P-2. During the year the sampling equipment was refurbished. Laboratory procedures were improved to satisfy the quality assurance requirements. Maintaining the ambient air quality standards is not a problem.

The biggest single attainment concern is with ambient SO₂ levels and their impact on standards. The State had declared Warrick County unclassifiable for SO₂. Our own computer modelling, by state-of-the-art methods, indicated possible violations of the secondary standard, but not the primary (Primary standards relate to health, secondary to welfare.)

By late summer the USEPA declared that Warrick County must be classified and proposed to call it non-attainment. We and the State were given the option to prove it otherwise. Attainment allows the use of coal equal to 6.0 lb SO₂/million BTU (3.31% S at 10,500 BTU) on a 30-day average basis. That 30-day averaging time is subject to tightening. We are currently living with 3.31% on a weekly basis. Any significant lowering of the 3.31% would add prohibitive costs to Warrick

power generation.

By agreement with the State, Alcoa has been modelling, by newer state-of-the-art models to predict the impact of 3.31% sulfur coal on Warrick County. The impact seems to be insignificant and we are planning to ask the State to declare Warrick County attainment.

Upgrade SO2 Monitor System

We made some major changes in this system with completion about 95% at year end.

- a. A new building was installed at P-2, with major roof repairs effected at P-1, P-3 and P-4.
- b. Purchase of four new TECO SO2 analyzers. These were received the last quarter for installation in December. We will not have data conversion programs for the TECOs from ATC before mid January.
- c. The Doppler Radar device for categorizing high level winds is an on again - off again project. Although it has promise, the device gets mixed reviews. We certainly need the information it's supposed to get but as long as any doubt about its ability exists, the Doppler Radar must stay in limbo because of the high cost.

Maintaining the SO₂ Monitor System

An average of 90.1% of all SO₂ data collected in 1980 at the four monitoring stations was determined as valid. This percentage number exceeds our goal by 5.1% and is the highest percentage achieved since we initiated the system.

- a. We've established a semi-annual program to have the State certify our SO₂ calibrator in their Lab. As a result they were persuaded to certify our network for SO₂ measurement retroactively until May 31, 1979.
- b. The quarterly deadlines for submission of SO₂ data to Pittsburgh and the State have been met. At one point we also sent a mass of data on tape to the EPA on demand.
- c. The expertise demonstrated by the Lab Quantometer Technican who services this equipment has improved noticeably. The relationship between him and Doug Wilson continues to develop. The Lab has selected a back up technician but his experience is very limited as yet.
- d. The State has performed an on-site audit of our monitoring program and given us high marks. However, this led to efforts to improve our quality assurance record-keeping, a continuing program.
- e. During 1980, there were no SO₂ excursions at any station. During that time the Power Plant operated without exceeding the 3.31%/10,500 BTU standard for sulfur in coal on a weekly average.

SO2 Alert System

Throughout the year our alert system was modified from time-to-time. In early 1981 an automatic annunciator system for the telephone is planned.

During 1980, the plan for reacting to an alert was changed hardly at all. We remained at the mercy of the weather. This has prompted us to develop a new plan, based on careful examination of weather forecasts by Murray & Trettel. Given enough pre notice we have the ability to move some accumulated, slightly better coal from the Squaw Creek Mine directly to the storage silos at very little cost penalty. We plan to amplify this system in 1981.

AGC Notice of Violation

There is still an open notice relating to opacity and particulate matter at the Power Plant. All conditions relative to Units 1, 2 and 3 had been brought into line and the USEPA was satisfied. Tests performed on Unit 4 (stack 3) indicated that a short but concentrated improvement program paid off. The unit came into compliance. However there is a consensus that the #4 precipitator is marginal and a major sidestream project is planned.

Meanwhile the EPA has agreed that we are in compliance and has offered a proposed agreement. This agreement is much too harsh, but our legal people believe it can be negotiated to our advantage. We would hope to come out of this with no

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fine or at least with a very modest one.

Opacity

Each power plant stack was fitted with a transmissometer from RAC Associates in 1978. This was a State requirement, which further obligated us to keep the opacity under 40% except on limited occasions. The previously mentioned improvements to Units 1, 2 and 3 achieved compliance. Difficulties with #4 precipitator and the number of times that unit has been up and down caused excessive out-of-compliance time.

The #3 stack transmissometer does not perform as well as the others. Doug Wilson has recommended to Sigeco that they replace it, having it repaired as a spare. They have agreed.

Doug Wilson maintains graphs of the opacity of each stack for distribution to the appropriate people.

Raw data from the transmissometers is massaged by a Kemron Corporation data handling system. Kemron started out well, but 1980 was not a good year. They changed their basic computer and reorganized and the transformation did not go well. Sigeco has suggested that we abandon the system, but having no viable alternative, we intend to make it work.

Kemron generates our required monthly and quarterly reports, which, when done on time, are excellent. Kemron has been advised of our dissatisfaction and will meet with us in January.

We expect an immediate solution.

Environmental Manual

This large catalog of environmental requirements, developed by Doug Wilson, has proven beneficial on numerous occasions. Although we have been accumulating changed information, we made no changes in 1980. A revised version will be available by the end of the first quarter, 1981.

Fluoride Standard

After the USEPA published New Source Performance Standards for the Primary Aluminum Industry, the State had to prepare its own regulation for existing plants. Warrick was the only plant in this category in Indiana. Doug Wilson and R. L. Parsons were instrumental in getting that regulation written in such a way that Warrick's fume collection systems are adequate. This involved literally teaching the state people how aluminum is made.

Warrick will have to maintain its systems well and probably do some increased sampling to guarantee compliance.

Ambient Fluoride Levels

At one time, when state-of-the-art for measuring ambient fluorides was a Leigh Instrument, Warrick maintained a monitor north of the plant. When maintaining of the analyzer became too difficult it was abandoned, awaiting the availability of

better devices. Such a device has been developed by ATC. This division's budget was used in 1980 to purchase an analyzer for the Process Engineers, while we attempted to find out a most appropriate site outside the plant "for a second unit."

Doug Wilson has implemented a static-plate fluoride exposure grid to help us determine this location. The grid study will continue several months before we purchase a new unit.

Delacquering Furnaces

Business conditions which made it nearly impossible for Alcoa to buy clean scrap in 1980 caused a change in RSI operations. Existing permits allowed UBC to be processed only in Delacquering Furnace No. 4. Use of furnaces 1, 2 and 3 were substantially curtailed. This division negotiated a temporary variance to test one of the furnaces with UBC. Data supported our request for a temporary permit to use No. 2 and/or 3 while we replace No. 1 and No. 2 with a rotary kiln. The permit has been granted.

Anode Baking Furnace

The decision to replace several kilns with a ring furnace has prompted a marathon effort by the division to get a construction permit. We began putting together an application in February but did not get it submitted until the last week of May. We worked against an early June deadline after which we could have been forced into an extended monitoring program.

Undoubtedly the project would have been delayed at least a year more.

With a great deal of effort we have maintained a dialogue with the State, steering their thinking along interpretations of the Clean Air Act which are rational and supportable. Still we are awaiting the permit, but it should be imminent.

All this is involved with a system which will let us increase production, improve quality, decrease energy and decrease emissions. One needs to consider the magnitude of the job if we couldn't demonstrate reduced emissions.

Vehicle Surface Damage

For several years Warrick has been plagued with incidents of damage to car finishes in the parking lots. This became a highly emotional issue with the work force and we paid considerable sums in damages. Until early 1980 the Environmental Control Division did all the interfacing with disgruntled people. Doug Wilson was successful in getting this essentially people/accounting job transferred to the accounting division. He continued to act as technical advisor to George Thorpe.

The real solution was physical changes to mill stacks orchestrated by the engineering division, coupled with better work practices around the mills.

Stack Testing

Attempts to get a ring furnace permit demonstrated, if we needed such a demonstration, that good operating data is an environmental necessity. We must know what emissions occur at each process;

- a. To measure compliance with regulations,
- b. To establish baseline levels of pollutants and
- c. To prepare for future engineering changes

Keep in mind that from here on any process modification or new process could require a year of data.

In 1980 Warrick has completed testing of stacks on cold mills 3 and 4. We are virtually at the mercy of the Warrick Laboratory to do the sampling. They are understaffed to provide this service on an adequate schedule. Consequently we missed our goal for the year.

Professionalism

Doug Wilson attended the national convention of the Air Pollution Control Association at Montreal. He and Phil Fuller, Laboratory Quantometer Technician, attended a training seminar for purchasers of the new TECO sulfur dioxide analyzers. Shortly after he joined this division Doug attended his final meeting of an ASTM subcommittee on leaching solid waste, of which he had been a member.

Doug has filled in for R. L. Parsons at meetings of the

Evansville Chamber of Commerce Environmental Quality Task Force. He has also arranged and participated in two on-site seminars by our weather consultant, Murray and Trettel and has visited their offices in Chicago.

Regulatory Involvement

Doug Wilson has been intimately involved in all aspects of the permitting process for air pollution, responding to various air-related questionnaires, receiving and acting as a guide to state and federal compliance officers, arranging for calibration of equipment, and generally enhancing his rapport with State officials. He has revised the Warrick and AGC Episode Alert Plants as required by former Regulation APC-12.

The State found it necessary to revise its volatile organic carbon (hydrocarbon) regulation to comply with Federal Standards. R. L. Parsons served on a task force of EQC, Inc., members to rewrite this regulation, APC-15. Alcoa's and Rea Magnet's particular concern were the portions relating to coil coating and magnet wire coating.

R. L. Parsons has maintained an active membership on an Environmental Quality Technical Advisory Committee of the Southern Indiana Health Systems Agency (SIHSA). This agency is federally mandated and has some potential to perform good work, but can fall prey to environmentalists if abandoned by industry.

We have prepared a catalog of all Warrick people with contacts

to government entities, cross referenced by the government groups. This includes addresses, phone numbers, titles and subjects and is the first such catalog that we know of. It will be updated from time-to-time.

MISCELLANEOUS

There are a number of items which require brief mention.

- a. In 1980 we cooperated with a consulting firm, Rexnord, Inc. at no cost to us. They set up portable equipment for six (6) months, testing whether any of several processes would treat 003 discharge to make it reusable. Rexnord worked under a Department of Interior grant. We have their preliminary report.
- b. Warrick's NPDES permit demands that our discharge have "no free or floating oil or debris." This is of particular concern on 003, the combined sewer from smelting and fabricating. Consequently for years we had a surface skimmer installed below Darlington Road. It ultimately wore out in 1979 and was scrapped. Part of 1980 was spent in experimenting with other devices. We are partially protected by floating booms, but they are not totally adequate. We finished the year with no good solution in sight.
- c. Keeping suspended solids in 003 within limits is always a problem. During the year it was learned that the ingot plant cooling tower is cleaned frequently, causing an upset in the discharge. Engineers redesigned the

SOPs for all towers, with noticeable improvement in solids.

- d. Large quantities of under-kiln water have always gone to waste in 003 discharge. This contributed to violations of oil and grease, fluoride and suspended solids. In 1980 a massive effort brought the under-kiln stand pipes in control, minimizing overflow. Collection of under-kiln water and tar for treatment at Bldg. 263, was also achieved. An intercept sump was built at the south end of the kilns to collect the bulk of the tarry material. This also reduced operating expenses for waste handling.
- e. One of the biggest eyesores and a constant threat to the control of discharge 006 was the area near tanks D5 and D6 at the southeast corner of 816, the cold mill building. Completion of tank D11 and the attendant handling equipment allowed the engineers to remove the old facility and clean up the pond.
- f. Although the NPDES permitting process is in a state of flux, there is much talk about the 129 "priority pollutants" a collection of chemicals which worry environmentalists. Collection and analysis of samples is difficult and costly. Pat Atkins' group is assessing domestic plants to check for their existence in effluents. John Lease collected samples at Warrick in October but we've had no feed back.
- g. During the last 2 quarters of 1980, a carbon monoxide analyzer has been collecting data at Monitoring Station P-1. The purpose of the project is to better under-

stand the relative contribution of various sources to SO₂ concentrations measured at the ambient monitoring sites. Since both the power plant stacks and the smelting process stacks produce SO₂, but only the smelting process stacks produce CO in significant quantities, the project was initiated to measure the impact these two major SO₂ sources have upon the monitoring sites. The project will continue through the 1st quarter of 1981. A final report will be issued in April.

- h. In 1980, environmental costs for Warrick Operations (not including capital costs) were \$3,206,000. Alcoa Generating Corporation costs (including capital costs) were \$4,228,000, this totals \$7,434,000. Similar numbers for 1979 were \$3,564,000, \$3,816,000 and \$7,380,000 respectively.

We regret this unusually different manner of reporting. No notice has been taken of Environmental costs which are capitalized for Warrick Operations. Consequently the cost of environmental is higher than that shown above. We plan to modify our data collection system early in 1981.

RECEIVED
JUL 14 1980
PATRICK R. ATKINS

P. R. Atkins

Pgh.

✓ 7/17
Bob.

I'm opposed to the entire plan. An additional layer of bureaucracy that will increase delays. Most, if not all the objectives are already being met. (i.e. the Board of Health already has model ordinances for major cities - but the cities are not obligated to follow - air quality standards have been set and are being enforced - etc.)

I will provide you with a formal review if you like, but I believe you can say the right things very well yourself. I stand ready to help!

Some notes are included.

Pat Atkins

C35625 0036

R. L. Parsons

This memo sheet is sized to ISO metric standard B6
125 mm x 176 mm

To: Pat Atkins

E. Rumberger.

I've discussed this with Rummy but not Pat.

as you know I'm a member of a Technical Advisory Committee (TAC) of SIHSA, a federally mandated health association. (you may recall the flop over Dr. Dunn at al's health study).

I'm obligated to review the Plan/Goal and I'd like your comments. I'm particularly opposed to Recommended Actions 11.3.1 and 11.3.2 on p. 28.

Thanks.

Bob

7-9



Aluminum Company of America
Warrick Operations
Newburgh, Indiana 47630

C35625 0037



**SOUTHERN INDIANA
HEALTH SYSTEMS AGENCY, INC.**

2222 W. 8th STREET • BEDFORD, IN 47421 • PHONE (812) 275-5984

CARL R. AHRENS, EXECUTIVE DIRECTOR

June 30, 1980

TO: ENVIRONMENTAL AND OCCUPATIONAL HEALTH
TECHNICAL ADVISORY COMMITTEE MEMBERS

FROM: BERNIE HULL

RE: MEETING JUNE 27, 1980

The enclosed materials were distributed to committee members at the meeting last Friday.

The committee discussed membership for the water and hazardous materials task forces and the establishment of a new task force to deal with occupational health. If you have a preference as to the task force you wish to serve on, please contact Doug Mattick at 466-1261 or me at the Scottsburg Office as listed below.

The committee members were requested to review the enclosed sections of the Health Systems Plan, Goal 11 and Goal 12, and make suggestions for changes, additions, or deletions. One of the committee activities during this year will be the development of revisions for these two goals and the recommended actions.

The next committee meeting is scheduled for FRIDAY, AUGUST 8, 1980, 10:30 A.M./EST at the Agency Office in Bedford. Patrick Haynes, staff attorney for the Indiana Legislative Services Agency has agreed to meet with us to discuss the legislative activities relating to environmental issues.

BMH/jh

Enclosures

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812-237-3361

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C35625 0038



**SOUTHERN INDIANA
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CARL R. AHRENS, EXECUTIVE DIRECTOR

ENVIRONMENTAL AND OCCUPATIONAL HEALTH
TECHNICAL ADVISORY COMMITTEE

Meeting June 27, 1980
10:30 A.M./EST
Agency Office
2222 West Eighth St.
Bedford, IN

TENTATIVE AGENDA

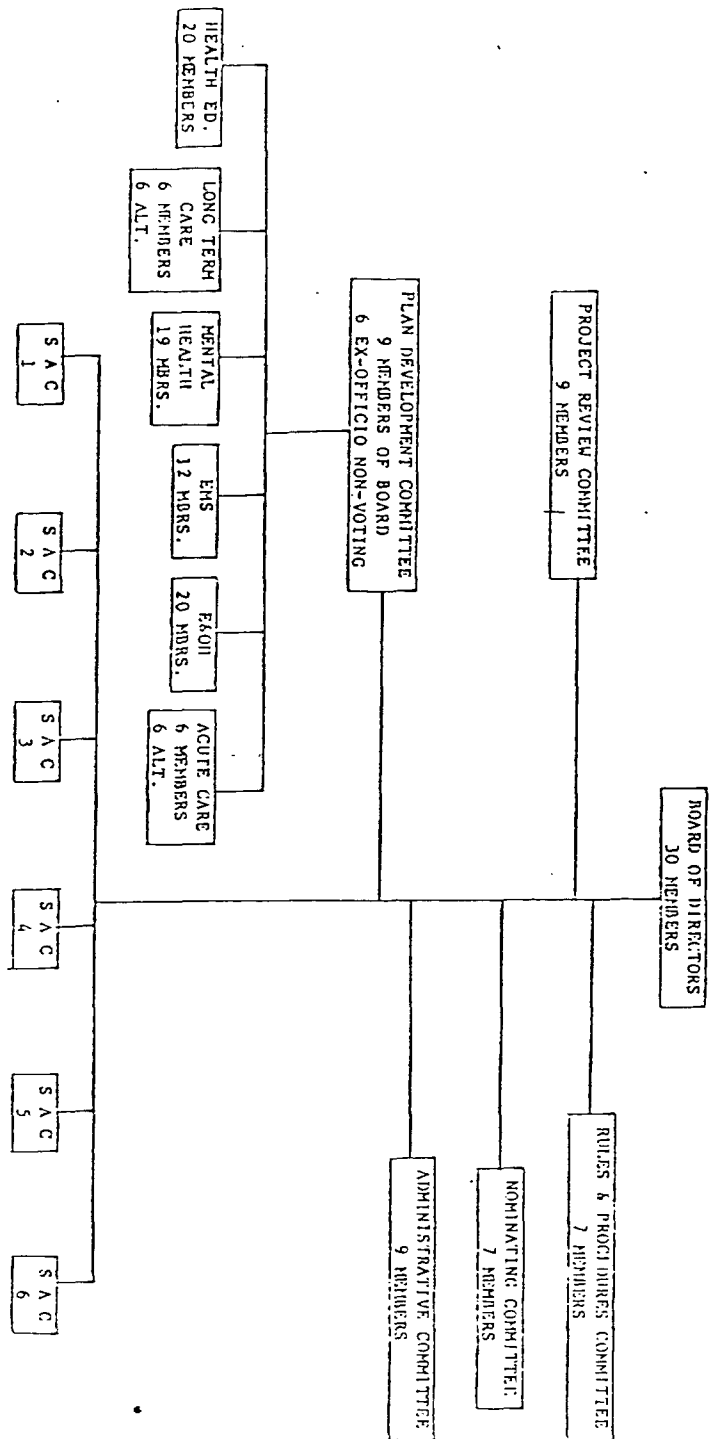
- I. Call to Order -- Chairman's Time
- II. Review of March 21, 1980 Meeting Minutes
- III. Presentation -- Solid Waste -- David Lamm,
Indiana State Board of Health
- IV. Task Force Reports
Hazardous Materials -- Bob Wilson
Water -- Gene Elder
Air Study -- Terry Zollinger
- V. New Business
Future Activities
Next Meeting
Other
- VI. Adjourn

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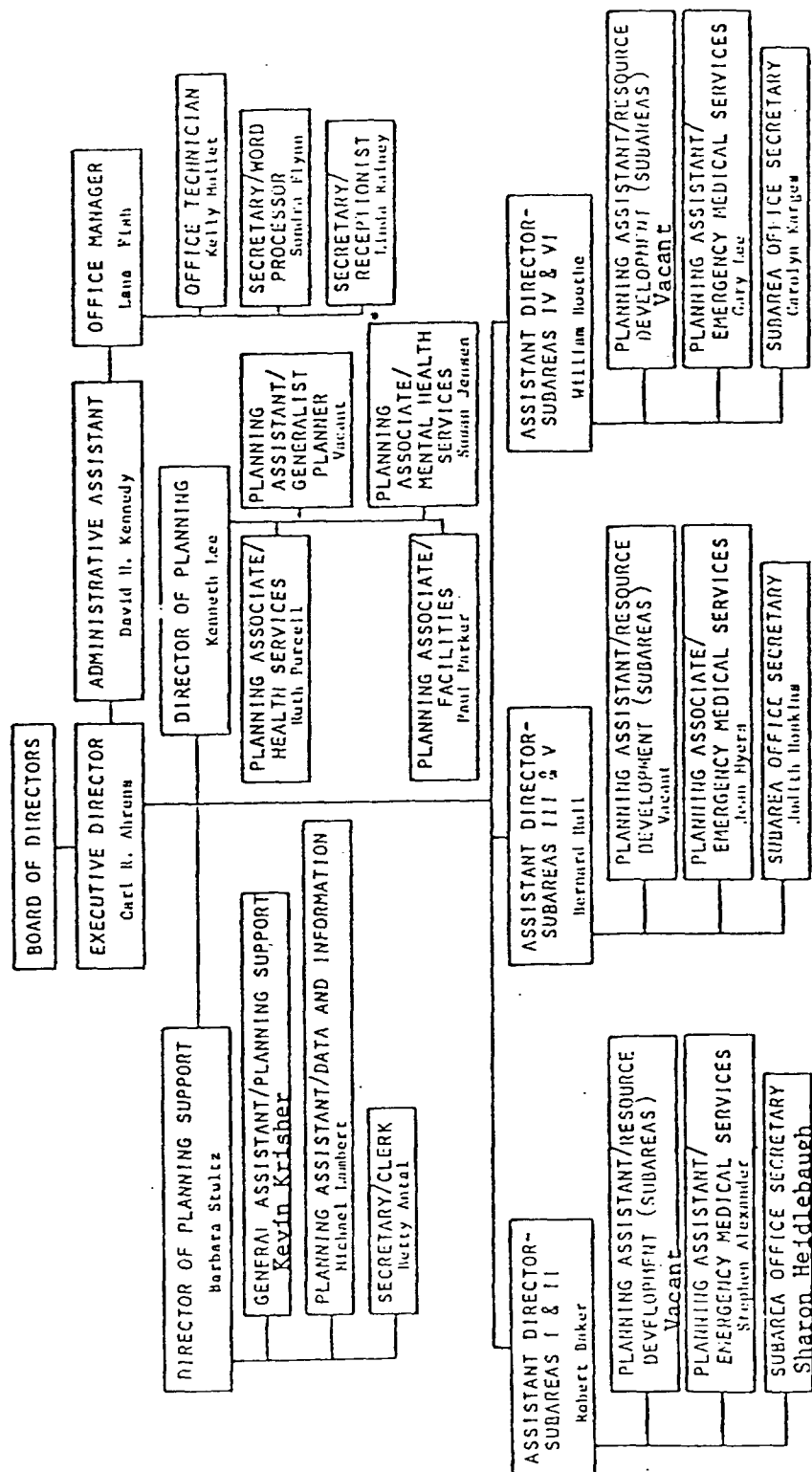
C35625 0039



1/24/80

C35625 0040

ADMINISTRATIVE ORGANIZATIONAL CHART
SOUTHERN INDIANA HEALTH SYSTEMS AGENCY, INC.



6/26/80

SOUTHERN INDIANA HEALTH SYSTEMS AGENCY

PUBLIC ISSUE STATEMENT

The Board of Directors of the Southern Indiana Health Systems Agency, Inc. (SIHSA) recognizes that the completion of a nuclear power plant or other nuclear facility located in our health service area will provide a source of energy and at the same time create potential risks to the health and safety of our citizens.

In recognition of concerns expressed, the Board of Directors of the Southern Indiana Health Systems Agency, Inc.:

1. Requests that the Indiana State Board of Health immediately develop a program to monitor the background radiation at the Marble Hill site and surrounding area and supports the development of this program.
2. Encourages the Indiana State Board of Health to develop and carry out a public information program concerning the monitoring activities.
3. Requests that the data obtained be public information and be made readily available to the public.
4. Believes there are health and safety problems associated with the transportation of radioactive materials to and from the nuclear facilities and that these problems should be resolved by an appropriate agency of government.
5. Believes the proper storage and disposal of nuclear waste from the operation of the Marble Hill nuclear power plant is an unresolved problem which should be specifically addressed by the appropriate agency of government.
6. Encourages and supports the State and local civil defense organizations in the immediate development and testing of an emergency response plan.
7. Encourages the State and local civil defense authorities to develop and carry out public information programs concerning emergency response plans.
8. Encourages and supports the adequate funding to develop and implement emergency response plans.

This statement is the position of the Southern Indiana Health Systems Agency, Inc. regarding any nuclear facilities current or proposed for our health service area or adjacent areas which may affect our citizens.

3/26/1980

C35625 0042

HEALTH SYSTEMS GOAL 11

ENVIRONMENTAL HAZARDS

Environmental hazards which adversely affect the health of the residents of southern Indiana should not exceed levels established as standards by responsible federal, state, and local agencies.

Indicator	Health of southern Indiana residents
Indicator Level	Federal, state, local environmental standards.
Target Population	Entire population of service area.

RATIONALE

Changes in the physical environment are having a more noticeable impact on the health of Americans. Industrialization, urbanization, changing life-styles, methods to increase agricultural output, and energy sources, have caused substantial increases in air, water, and food pollution. Americans are exposed to many hazards in the home and work place. Almost 80% of the U.S. population live in urban areas, subject to pollution from power production, vehicular traffic, and industry. It is estimated that over 12,000 chemicals in industrial use have toxic properties.¹ The hazards of long-term exposure to a chemical substance are not well defined. The environmental agents adversely affecting health probably have their greatest impact on non-fatal disease or injury, but their impact on mortality is also significant. It has been estimated that 60% to 90% of all cancer is related to environmental factors.

The President's Council on Environmental Quality reports, "The adverse effects from chemical contaminants in our environment have become a significant determinate of human health and life expectancy."²

Product hazards also have a major impact on health. Serious product defects as well as incorrect use of medical and consumer products result in illness, injury or death to thousands of people. In 1970, the U.S. Department of Health, Education and Welfare's Task Force on Medical Devices reported 10,000 injuries and 751 deaths directly related to medical devices over a ten (10) year period, including 512 deaths and 300 injuries attributed to heart valves, 89 deaths and 300 injuries caused by heart pacemakers, and 10 deaths and 8,000 injuries due to intrauterine devices.

The SHISA must increase its knowledge of how environmental factors affect the health status of the people in our area. Health indicators

may be used directly to evaluate environmental vectors involved in some communicable and parasitic diseases such as hepatitis, food poisonings, salmonella infections, malaria, encephalitis, leptospirosis, trichinosis, Rocky Mountain spotted fever, and other diseases.

Many of the current environmental problems, however, are more difficult to evaluate. Reporting systems are not attuned to some environmental problems. In some cases, data are not reported in a form useable by HSAs to evaluate the conditions in its service area. Furthermore, the HSA finds that agencies handling this kind of data do not have statistics that can be easily related to southern Indiana.

Little is known about the prevalence of many chronic diseases which have been associated with environmental conditions, albeit some are also associated with other factors. Such conditions as emphysema, bronchitis and other lung ailments that have been associated with air pollution and exposures to substances at work are not reported except in mortality records.

Cancer registers are being developed in some states and may be a source of data. Indiana does not have a statewide cancer registry.

Analysis of hazardous and toxic substances in the environment is further complicated because some substances cause immediate response, such as carbon monoxide, hydrogen sulfide and nitrates. Other substances, however, may cause responses only after cumulative exposure, such as lead or ionizing radiation. Another group of substances may cause responses long after the initial exposure began--such as asbestos, ionizing radiation and polyvinylchloride.

The myriad factors involved, the variable time periods between exposure and the need for health services, and the lack of understanding and data in some areas contribute to the challenge of health planning related to environmental factors.

In spite of these difficulties, however, enough is known to begin to deal with these factors in our planning efforts. One mechanism for helping with this process is the coordination of our efforts with those of related agencies, such as the Indiana State Board of Health, the Indiana Division of Labor, and local health departments.

Reference has been made primarily to negative aspects of the environment as these relate to health. The environment may also be a positive factor influencing health. Adjustment of the fluoride content of the public water supply is a cheap and effective method of preventing tooth decay.

Vitamin D added to milk and certain vitamins and iron added to bread are other examples of adjustments that may influence health positively. Other positive influences of the environment are related to residential environments that are healthful and stimulating to mental and physical development. Provision of recreational facilities can promote physical and mental well-being.

In evaluating environmental factors related to health, health statistics are always useful as one basis for determining priorities. However, these statistics represent the result of previous exposure to hazards, whether the health impact occurs in a couple of weeks as with communicable diseases, immediately as with accidental injuries, or some fifteen (15) to thirty (30) years after initial exposure as with some carcinogens such as asbestos, pvc, and others.

While it is important to correct conditions that are currently causing illness, death, and disability, it is also important to prevent them from happening wherever possible. Consequently, in those cases where certain environmental conditions may lead to adverse health effects, action to change the conditions may be indicated by examining the environmental condition as compared with standards of known safe and healthy environments. Limits have been established for biological and chemical contaminants of water. Other standards have been similarly established for safe exposure levels in industrial environments and in the atmosphere. Levels that cause damage to hearing have been established for noise. Conditions that foster the breeding of disease-carrying mosquitos, rats and flies are recognized as hazardous. Thus, in some circumstances, environmental indicators may be substituted for health indicators as a measure of the health status of a community. These environmental indicators may show the potential for adverse effects on health status long before concrete evidence appears in morbidity, mortality, injury or disability statistics. A community plagued with numerous malfunctioning septic tanks should not wait for a typhoid or hepatitis outbreak to recognize the importance of changing the condition.

Certain environmental conditions impair human functioning to a degree equal to or greater than that of some recognized diseases. For example, the ozone and other constituents in photochemical smog will sometimes produce severe tearing of the eyes. Ragweed pollen and other allergens can cause intense suffering and incapacitate some individuals. Poison ivy may do likewise.

Health Systems Analysis: Characteristics

In the environmental field, there are a number of federal laws that assign responsibility for enforcement to individual agencies. Chief among these is the Environmental Protection Agency (EPA) which enforces federal laws with respect to pollution of air and water, solid wastes, toxic and hazardous substances, and noise. EPA also provides funding for state agencies that assist it in executing various federal anti-pollution statutes. Various funding sources within the Federal government are available to units of local government for environmental and occupational health programs. The Labor Department's Occupational Safety and Health Administration (OSHA) is responsible for enforcing provisions of the Occupational Safety and Health Act to prevent the exposure of workers to toxic and hazardous conditions in the work environment. The Consumer Product Safety Commission identifies hazardous conditions in the work environment. The Department of Housing and Urban Development administers a variety of federal programs dealing with housing and urban development. Within the Depart-

ment of Health, Education and Welfare, the Food and Drug Administration is concerned with community sanitation, childhood lead poisoning and the rodent and insect vectors of disease.

States generally have counterpart agencies similar to the federal agencies in purpose. Some are organized as part of the general health agency, such as the Kansas Department of Environment and Health. Others are independent, such as the Pennsylvania Department of Environmental Resources. In other circumstances, environmental activities may be scattered among several state agencies.

In Indiana, availability and accessibility of environmental health services are provided by a system of state and local agencies. In the Southern Indiana Health Service Area there are thirty-eight (38) local health departments (one (1) in each county), an Environmental Protection Agency in Evansville, and an Air Pollution Control Board which operates within the County Health Department of Vigo County. Two (2) counties in the Southern Indiana Health Service Area do not employ sanitarians at the present time. Martin County has no budgeted position. Pike County has a budgeted position which is not filled. The Indiana State Board of Health, its several boards, bureaus, divisions and sections have the primary responsibility and authority for most of the environmental health programs throughout the state. Many of the divisions and sections of the State Board of Health have field personnel living and working out of their homes in various parts of the state.

In 1971, an 11-member Indiana Environmental Management Board (EMB) was created to coordinate existing pollution control agencies of the State and to serve as the final authority for environmental control in Indiana. The law creating the board granted it specified emergency powers, provided methods for adopting and enforcing rules and regulations and set up civil criminal penalties for violations. Under the law's provisions, EMB establishes priorities for and coordinates the functions of the state Stream Pollution Control Board and the Air Pollution Control Board and has responsibilities for drinking water and solid waste programs.

In addition to the Division of Industrial Hygiene and Radiological Health in the State Board of Health, the Indiana Division of Labor has responsibility for occupational health. A major function of the Division of Labor is the administration of the new Indiana Occupational Safety and Health Act. The new law follows closely the provisions of the Federal Occupational Safety and Health Act.

The nine member Occupational Safety Standards Commission is appointed by the Governor. The major function of the Commission is to adopt safety standards designed for the prevention of accidents in all places of employment and for the protection of the life, health, and safety of employees. Federal Occupational Safety and Health Administration Standards are to be adopted. Nationally recognized standards may be adopted by reference.

The Board of Safety Review consists of five (5) members appointed by the Governor. The Board conducts hearings on appeals from safety

orders and on orders not complied with. It may, after a hearing on an order, dismiss the order, modify it, extend the time for compliance, or issue a final order and direct compliance by a specific date.

The Pesticide Review Board was created to assist the State Chemist in administering the Pesticide Control Law. Among its most important duties is the classification of pesticides according to use, adopting a list of "restricted use pesticides" and "pesticides for use by prescription only". It is also responsible for establishing rules and regulations providing for the safe handling, transportation, storage, distribution, and disposal of pesticides, as well as rules and regulations for restricting or prohibiting the use of certain types of containers or packages for specific pesticides.

Projections of the costs involved in establishing an environmental health program in southern Indiana with adequate provision of facilities, manpower, and services is limited by the lack of a consolidated data base for present expenditures by the many agencies presently involved. The various agencies operate with a combination of federal, state and local funding which complicates the task of arriving at a definitive dollar amount presently expended in order to estimate future needs for the accomplishment of this goal. It seems to be an accepted opinion that the salaries of local sanitarians are below the general wage scale in most counties. This presents a problem in securing appropriately trained and qualified personnel in most of the counties. The salaries for local sanitarians are derived for the most part from county budgets but local governmental units must work within a frozen tax base.

Many of the programs of the divisions and sections of the State Board of Health have specific procedures for surveying, sampling and evaluating various aspects of the environment. The compliance with federal and state standards of the levels of various environmental pollutants is one measure of the quality of service. Various techniques for measuring environmental quality using specific standards might be dealt with by an environmental study group.

Since the control of the environment involves many federal, state and local regulations, the acceptability of the various programs depends upon the methods of administration and whether or not a particular entity is being regulated for or against.

Because of the many agencies and organizations sharing responsibility and concern for various aspects of the environment, the continuity of services in Indiana suffers. Each county or municipality may adopt their own environmental health codes. The State Board of Health has suggested model ordinances for various components of environmental protection, but there is no obligation for local government to follow these models.

OBJECTIVE 11.1

A coordinating mechanism should exist in southern Indiana to collect and analyze data relating to environmental factors to the health status of residents of southern Indiana.

Indicator	Coordinating mechanism
Indicator Level	Existence of coordinating mechanism
Target Population	Population of southern Indiana service area.

Alternative Long Range Recommended Action 11.1.1

A study and advisory group of environmental experts will be established to identify environmental and occupational health problems in southern Indiana and to recommend suitable solutions by 1979.

OBJECTIVE 11.2

The system of federal, state, and local agencies responsible for environmental planning and control should be adequately coordinated and funded to achieve environmental and occupational health and safety goals.

Emr Myn Biel

Indicator	Coordinated and funded federal, state and local environmental planning agencies
Indicator Level	Adequate coordination and funding of environmental planning agencies to achieve environmental and occupational health and safety goals.
Target Population	Population of the southern Indiana service area

Recommended Action 11.2.1

Health related agencies and organizations in southern Indiana will evaluate proposed legislation and funding levels and testify where appropriate to advocate needed environmental and occupational health programs.

Recommended Action 11.2.2

Physicians and hospitals will aid appropriate agencies in identifying and studying environmentally-related disease and disability which appears in the population.

*Dangerous without a detailed plan
& methodology.*

Recommended Action 11.2.3

The status of county health department sanitarians will be upgraded by increasing their compensation and expanding continuing education programs for such personnel in environmental health-related areas.

Better quality assured on those hired!

Recommended Action 11.2.4

The Indiana Environmental Management Board will develop model ordinances for environmental control for distribution to city and county governments.

Already done

OBJECTIVE 11.3

Air pollution in southern Indiana should not exceed levels established as maximum acceptable levels by the Indiana Air Pollution Control Board by 1983.

Done

Indicator
Indicator Level

Air pollution
Maximum acceptable
levels established by
the Indiana Air
Pollution Control
Board

Target Population

Population of southern
Indiana.

Recommended Action 11.3.1

Target dates for compliance with established emission standards will be determined by the Indiana Air Pollution Control Board and the maximum allowable punitive action will be taken against non-complying industries in southern Indiana.

Done

Recommended Action 11.3.2

The planning and control area of the Evansville Environmental Protection Agency will be expanded to include Gibson, Pike, Posey, and Warrick Counties by 1983.

Why?

Recommended Action 11.3.3

Bicycle transit systems and mass transit systems will be developed in major population centers of southern Indiana to decrease the use of automobiles and the levels of resultant air pollution.

Go to it!

OBJECTIVE 11.4

Pollutants in southern Indiana's lakes and streams should not exceed levels established as maximum acceptable levels by the Indiana Stream Pollution Control Board by 1983.

Underway

Indicator

Lake and stream pollution

Indicator Level

Maximum acceptable levels of pollution as set by the Indiana Stream Pollution Control Board

Target Population

Population of southern Indiana

Recommended Action 11.4.1

Municipal sewer systems will be extended, where feasible, into areas which are presently serviced by septic systems by 1983.

(already underway)

Recommended Action 11.4.2

The installation, supervision, and maintenance of municipal, community, semi-public, and private sewage treatment and disposal systems will be strictly regulated by state and local government. *yes - but agency efforts*

Recommended Action 11.4.3

County health departments will adopt regulations by 1983 which (1) prohibit the development of individual sewage disposal systems on unsuitable sites, (2) require the construction of sewers and treatment plants in such areas, and (3) permit new construction only where municipal sewers can be extended or adequate septic systems will be developed. *yes - but agency efforts*

Recommended Action 11.4.4

Waste treatment facilities adequate to prevent the bypassing of waste from treatment and minimize combined sanitary and storm sewer overflow will be constructed as needed in southern Indiana. *yes - but agency efforts*

OBJECTIVE 11.5

Solid Waste should be reduced to the lowest achievable level and should be managed to prevent any health hazard which such waste might pose for residents of southern Indiana. *yes*

Indicator
Indicator Level

Solid waste
Lowest achievable
level

Target Population

Residents of southern
Indiana.

Recommended Action 11.5.1

Health-related agencies and organizations in southern Indiana will encourage national, state, and local policies, legislation, and regulations which decrease waste production and increase recycling and resource recovery. *How*

Recommended Action 11.5.2

School corporations in southern Indiana will develop and implement sanitation and safety education programs which promote citizen responsibility for litter reduction and proper garbage and trash containerization.

Recommended Action 11.5.3

Municipal and county waste collection operations in southern Indiana will institute, where appropriate, separate collection and recycling systems and will encourage business offices to recycle high grade waste paper.

Recommended Action 11.5.4

Federal and state legislation eliminating solid waste at its source (e.g., requiring or promoting the use of returnable containers) will be established.

Not necessarily a good move! - Costs are high!

- 1 Theory, Practice and Application of Prevention and Environmental Health. "Report of Task Force Two. The National Conference on Preventive Medicine." Washington, D.C., June 1975, page 7.
- 2 The Sixth Annual Report of the Council on Environmental Quality. (Washington, D.C. GBO#4000-03371-1, December 1975), page 17.
- 3 Ibid., page 12.
- 4 Food and Drug Administration Issue Paper, June 11, 1976, page 1.

HEALTH SYSTEMS GOAL 12

OCCUPATIONAL ILLNESSES AND INJURIES

Occupational illnesses and injuries in southern Indiana should be minimized.

Indicator	Occupational illnesses and injuries
Indicator Level	Minimumization of occupational illnesses and injuries
Target Population	Southern Indiana residents.

RATIONALE

It is estimated that nationally almost 500,000 workers develop occupational diseases each year and as many as 100,000 deaths might be associated with occupational disease. In 1974, approximately 14,000 people were killed in work accidents and about 2.3 million were either permanently or temporarily disabled as a result of work accidents in the U.S. It is estimated that work accidents cost \$15.3 billion in 1974, including \$3 billion in wage loss, \$1.7 billion in medical expenses, \$2.1 billion in insurance administration, \$1.7 billion in fire losses, and \$6.8 billion in indirect costs.

The Occupational Safety and Health Act of 1970 clearly specifies that all workers must be guaranteed a safe and healthful work place.

Southern Indiana's major industries include agriculture, lumber and wood products, stonecutting, coal mining, plastics, and heavy manufacturing. Each of these industries holds potential occupational hazards for the worker. The National Institute for Occupational Safety and Health, has projected a formal system of research with priority criteria for effecting standards to protect workers. Standards have been developed for at least thirty-five (35) hazardous chemical and physical agents such as asbestos, carbon monoxide, and sulfuric acid. Each criteria document provides an environmental work place exposure limit, recommendations for medical examinations and clinical tests, record-keeping, engineering and control procedures, personal protective clothing and devices, and methods for informing the employee of work place hazards. Research is currently underway to set additional standards.

According to an Indiana Division of Labor report, during 1974, Indiana recorded 156,000 cases of occupational injuries and illnesses with 127 fatalities and 733,000 lost work days. Manufacturing, wholesale and retail trade, and construction accounted for the major cases of occupational injuries and illnesses in 1974.

Seventy-three percent (73%) of the work force in the Southern Indiana Health Service Area is employed in these occupational categories. It is estimated that perhaps as many as nine (9) out of ten (10) industries inspected do not comply with the safety standards.

Health Systems Analysis: Characteristics

Major occupational health services are provided by the Industrial Hygiene and Radiological Health Division of the State Board of Health and the Indiana Division of Labor which is charged with the responsibility of administering the Indiana Occupational Safety and Health Act. At the present time it is reported that some of the personnel of the Division of Labor are being transferred to the State Board of Health so that the Division of Industrial Hygiene may offer expanded consultation services, regarding health effects, to the industries of the State. The Division is presently in the process of developing a plan for providing these services on an expanded scale. None of the local health departments in the Southern Indiana Health Service Area provide occupational health programs. Some local health departments make initial investigations of complaints and then make referrals to the Division of Labor or the State Board of Health.

The Division of Labor has eight (8) to twelve (12) field personnel living and working in the Southern Indiana Health Service Area. Routine inspections are made on a random selection basis and complaints are investigated. The primary emphasis is on safety requirements and when conditions involving specific chemicals or noise are observed, consultants from the State Board of Health are contacted.

OBJECTIVE 12.1

Establish occupational health programs in local health departments in southern Indiana to carry out monitoring and consultation services to local industries by 1983.

Indicator	Occupational health programs in local health departments
Indicator Level	Establishment of occupational health programs in local health departments
Target Population	Local industries in the health service area.

Alternative Long Range Recommended Action 12.1.1

The industrial hygiene division of the State Board of Health will provide materials, coordinate, and conduct training programs for local health department sanitarians and other interested industry and agency personnel so that they will be able to identify occupational health problems.

Alternative Long Range Recommended Action 12.1.2

The American Lung Association of southern Indiana in cooperation with other agencies in southern Indiana will coordinate and conduct an awareness seminar for representatives of local health departments, cooperative extension services and area industries concerning occupational lung disease.

¹ National Safety Council, Accident Facts, 1975 Edition, Chicago, 1975.