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92 Dear Senator Percy:

In response to your request of September 1, 1972, this is our report on the status of the efforts made to correct the problems discussed in our prior report to you entitled "Federally Assisted Air Pollution Control Programs in the Chicago Metropolitan Region" (B-166506, Apr. 20, 1971).

As requested, we examined into (1) the progress of the air pollution control agencies in the Metropolitan Chicago interstate air quality control region in qualifying for maintenance grant support from the Environmental Protection Agency (EPA), (2) the status of efforts of Chicago, Illinois, to compile an inventory of air pollution control program equipment, and (3) the status of Chicago's efforts to insure that staff members of its Department of Environmental Control (DEC) met the qualifications set forth in the appropriate position descriptions and that they were provided with adequate training.

In July 1972 EPA revised its regulations to provide that program grants be awarded to air pollution control agencies in two stages--premaintenance and maintenance. Premaintenance grants may not be awarded to an agency for more than 6 years from the date the agency first accepts premaintenance grant support; under certain circumstances, the premaintenance period may not exceed 4 years. If an agency has not progressed to the point of qualifying for a maintenance grant at the end of the premaintenance period, it will not be eligible to receive program grants until EPA determines that the agency's air pollution control program qualifies for maintenance grant support.

Of the six local air pollution control agencies in the Chicago control region that had received EPA program grants, only DEC had qualified for a maintenance grant as of September 1972. When the present grant periods end (by Jan. 1, 1973), four of the five other agencies may apply for premaintenance grants. Of these four agencies, three must achieve maintenance status within 4 years of the dates they first received premaintenance grants and one within 6 years. The

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sixth agency was refused grant support by EPA in 1972 because the agency misused 1971 program grant funds; but, should it receive a premaintenance grant at some future date, it will have 4 years from that date to achieve maintenance grant status.

DEC has made some progress toward compiling and maintaining an inventory of equipment since our 1971 report. We found, however, that the inventory record was still incomplete, items of equipment purchased after the inventory record was compiled had not been systematically recorded, and in general the record had not been kept up to date. In addition, DEC had no central control over incoming items of equipment purchased with Federal grant funds.

Chicago's hiring practices had not changed from those which we reported in April 1971. As of September 1972 employees were still being hired before they took civil service examinations and were being classified as temporary employees. We found, however, that there were no qualifying examinations for some of the positions. Of the current DEC staff of 217 employees, 86, or 39 percent, were classified as temporary.

Although there were some employees whose qualifications did not appear to meet the requirements of their position descriptions, the number of such employees had decreased after our prior review. Not only had DEC's inspectors acquired valuable experience but also 89 percent of the inspectors employed as of September 1972 had passed the required civil service examinations.

As of September 1972 DEC did not have a formal, systematic training program or complete training records. The records showed, however, that DEC employees in all job classifications had been receiving some in-house training and some training from the Chicago Civil Service Commission, EPA, and private sources.

There appeared to be a need for better cooperation among State and local air pollution control agencies in the Chicago control region. Both the Illinois agency and DEC had permit programs applicable to major sources of pollution in Chicago. In addition, EPA and State officials told us that there was no formal agreement of cooperation between Illinois and Indiana for control of interstate air pollution. Cooperation between the two States has been limited to some exchanges of air-monitoring data and to participation in emergency episode plans.

Our review was conducted at EPA's Chicago regional office; Illinois' air pollution control agency in Springfield, Illinois; and DEC. We reviewed regulations, examined records, and discussed the air pollution activities with EPA headquarters and regional officials and with State and local air pollution control officials.

The following sections of this report include more detailed information on our findings and information we obtained on DEC's actions in response to recommendations which EPA made to DEC in 1970 to improve its program effectiveness.

#### CHANGE IN FEDERAL GRANT REGULATIONS

The Clean Air Act, as amended (42 U.S.C. 1857), authorizes the Administrator, EPA, to award grants to State and local air pollution control agencies to pay for part of the cost of planning, developing, establishing, improving, and/or maintaining programs for the prevention and control of air pollution. Prior to July 1, 1972, EPA categorized these grants as either project or maintenance grants, according to their intended purpose. EPA guidelines to applicants stated that project grants could be awarded in the following three stages.

1. Planning or developing a workable program--expected to be completed within 2 years.
2. Establishing projects for activation of an air pollution program--expected to be completed within 3 years.
3. Improving projects to better the workable program in operation. Such grants were to be awarded for up to 3 years.

The guidelines also stated that maintenance grants were intended to provide air pollution control agencies with continuing Federal financial assistance for maintaining effective workable programs capable of accomplishing air quality objectives within appropriate time schedules.

EPA issued regulations, effective July 1, 1972, which provided that air pollution control agencies were to be funded under program grants in two stages--premaintenance and maintenance--which would eliminate the separate planning, establishing, and improving stages. The regulations provided that, to be eligible for premaintenance support, an agency must have taken action to plan, develop, establish, or improve an air

pollution control program. At the end of the premaintenance period the agency can qualify for maintenance support. An additional requirement for maintenance support is the development of procedures for executing all or part of an air pollution control implementation plan.

The premaintenance period may not exceed 6 years from the date the air pollution control agency first accepts premaintenance grant support. However, for those agencies which received Federal grants for 3 or more years between July 1, 1968, and June 30, 1972, the premaintenance period is 4 years from the date of receipt of Federal premaintenance grant funds.

The regulations provide that, as an inducement for agencies to qualify for maintenance support as soon as possible, the percent of Federal participation in total program costs be reduced for each successive year after the first year of premaintenance support. If an agency has not progressed to the point of qualifying for a maintenance grant at the end of the premaintenance period, it will not be eligible to receive program grants until EPA determines that the agency's air pollution control program qualifies for maintenance grant support.

METROPOLITAN CHICAGO INTERSTATE  
AIR QUALITY CONTROL REGION

The Metropolitan Chicago interstate air quality control region was established in December 1968 and included six counties in northeast Illinois and two counties in northwest Indiana. As of September 1972 the Illinois part of this region had expanded to nine counties. The counties included in the interstate region appear below.

Illinois counties:

Cook  
Du Page  
Grundy (note a)  
Kane  
Kankakee (note a)  
Kendall (note a)  
Lake  
McHenry  
Will

Indiana counties:

Lake  
Porter

<sup>a</sup>Not included in the region in December 1968.

Since the inception of the Federal grant program to support air pollution control agencies in 1963, two county and four municipal agencies in the Chicago control region had been awarded grants totaling about \$8.2 million through fiscal year 1972. Grants totaling about \$2.9 million were awarded during fiscal years 1971 and 1972, as shown below.

	<u>Fiscal years</u>	<u>Federal grant funds awarded</u>	<u>Local funds budgeted</u>	<u>Total funding</u>
Illinois:				
Chicago	1971- 72	\$1,463,286	\$2,800,858	\$4,264,144
Cook County (exclusive of Chicago)	1972	1,242,271	526,776	1,769,047
Indiana:				
Gary	1971- 72	59,069	224,073	283,142
East Chicago	1971- 72	63,832	110,476	174,308
Hammond	1972	38,244	116,586	154,830
Lake County (exclusive of above three cities)	1971	<u>21,700</u>	<u>17,627</u>	<u>39,327</u>
Total		<u>\$2,888,402</u>	<u>\$3,796,396</u>	<u>\$6,684,798</u>

According to EPA officials, Lake County was refused grant support in 1972 because it had misused approximately \$10,000 of the 1971 EPA grant funds. The EPA officials said that Lake County had obtained laboratory services from a commercial source after having been instructed to use an EPA-supported regional facility in Gary. As of September 1972 the Lake County agency had reimbursed EPA for about \$8,000 of the \$10,000. According to EPA officials, when Lake County has made full reimbursement, it again may be eligible for EPA grant support.

In our April 1971 report, we stated that several local agencies in the Chicago control region had not progressed to the point of qualifying for maintenance grant support, although they had received Federal financial support for improvement projects for substantially more than 3 years. As

of September 1972 these agencies still had not qualified for maintenance grants and continued to receive improvement grants.

Of the six local agencies in the Chicago control region that had received EPA grants, only DEC had qualified for a maintenance grant. As of September 1972, four of the five other local agencies were receiving improvement grants. When the present grant periods end (by January 1, 1973), the four agencies may apply for premaintenance grants. In accordance with the revised regulations (see p. 4), the Gary, East Chicago, and Hammond air pollution control agencies will have to achieve maintenance grant status within 4 years after receiving premaintenance grants, or they will be ineligible for further EPA program grant assistance. The Cook County air pollution control agency will have 6 years to achieve maintenance grant status.

Should the Lake County air pollution control agency receive an EPA premaintenance grant at some future date, it will have 4 years from that date to achieve maintenance grant status.

#### EQUIPMENT INVENTORY

The local agencies in the Chicago control region spent about \$302,600 for equipment during calendar years 1970 and 1971; DEC expenditures accounted for about 77 percent of that amount. The following table shows the expenditures reported by the six agencies for the purchase of equipment. The table does not show equipment expenditures totaling \$80,324--\$72,599 by DEC, \$6,718 by Cook County, and \$1,007 spent by East Chicago--because a detailed breakdown of these amounts was not readily available.

	Equipment purchased					<u>Total</u>
	<u>Air-</u> <u>monitoring</u>	<u>Labo-</u> <u>ratory</u>	<u>Tech-</u> <u>nical</u>	<u>Ve-</u> <u>hicles</u>	<u>Other</u> <u>(note a)</u>	
Chicago	\$36,296	\$12,080	\$ 9,250	\$40,450	\$63,408	\$161,484
Cook County	-	47,300	4,088	-	691	52,079
Gary	4,730	-	-	50	148	4,928
Hammond	-	-	-	3,487	299	3,786
East Chicago	-	-	-	-	-	-
Lake County (note b)	-	-	-	-	-	-
<b>Total</b>	<u>\$41,026</u>	<u>\$59,380</u>	<u>\$13,338</u>	<u>\$43,987</u>	<u>\$64,546</u>	<u>\$222,277</u>

<sup>a</sup>Primarily furniture and office equipment.

<sup>b</sup>Data not available at time of our review.

During our prior review we found that DEC had not maintained effective control over equipment purchased with Federal air pollution grant funds. Both DEC and the comptroller's office maintained records of expenditures for equipment; however, the records were not reconciled periodically. In addition, there were discrepancies in the records of equipment items listed and in the value assigned to specific equipment items.

Furthermore, the city's inventory of air pollution control equipment, purchased before and after receipt of Federal financial assistance, was incomplete and did not include (1) locations of specific items of equipment, (2) inventory control numbers, (3) dates of acquisition, and (4) cost data, in some cases.

DEC has made some effort to correct these deficiencies. Specifically, it has established an inventory record to show (1) locations of specific items of equipment, (2) inventory control numbers, (3) dates of acquisition, and (4) cost data. A DEC official acknowledged, however, that the current listing of equipment items was incomplete. He said that there was no assurance that the listing, as originally developed about 2 years ago, included all items of equipment on hand; the equipment purchased after that time had not been systematically recorded, and the record had not been kept up to date. The official told us that a staff accountant would be hired in 1973; his duties would include completing and maintaining the inventory records and establishing maintenance records for equipment on hand.

On a test basis we substantiated the fact that the records were incomplete. We found 10 items, including two precision sound-level meters and octave-band analyzers valued at about \$3,000 each and a tape recorder valued at about \$9,000, which did not have inventory control numbers and which were not listed on the inventory records. At the time of our review, EPA region V auditors were reviewing the adequacy of Chicago's inventory of air pollution control equipment. An EPA auditor told us that he had identified several additional items of equipment that had not been listed in the DEC inventory records.

#### STAFFING AND TRAINING

Chicago's hiring practices have not changed from those reported in April 1971, except that temporary appointments may now be made for periods of 120 days instead of 60 days. As of September 1972 personnel were still being hired before

they took civil service examinations and were being classified as temporary employees for extended periods of time. We found, however, that there were no qualifying examinations for some of the positions. Although there were still some employees whose qualifications did not appear to meet the requirements of their civil service position descriptions, the number of such employees had decreased after our prior review.

As of December 31, 1969, the Chicago air pollution control agency had a staff of 153. In 1970 DEC was established to consolidate air pollution and other aspects of environmental control under one agency. DEC's staff as of September 1972 was 217, including 17 Department of Labor Emergency Employment Act employees.

In our prior review we noted that, as of July 1970, 75 of 177 DEC employees, or 42 percent, were classified as temporary. Of the 217 people employed as of September 1972, 86 (including the 17 Emergency Employment Act employees), or 39 percent, were classified as temporary.

We examined personnel data for 18 of the employees included in our previous review who had not met the desired minimum qualifications for their positions and 18 of 54 executive management, administrative, technical-professional, and inspection employees hired after March 1970.

We believe that the executive management, administrative, and technical-professional employees generally met the requirements of their respective position descriptions. The inspectors, many of whom we had reported as not meeting the desired minimum qualifications for their positions in 1970, generally appeared to be qualified for their positions as of September 1972. Not only had the inspectors acquired valuable experience since our previous review, but also 89 percent of them had passed the required civil service examinations.

We discussed the qualifications of DEC employees with EPA officials and with the manager of the Illinois division of air pollution control. Both the EPA and the Illinois officials expressed the belief that the DEC employees were generally qualified to perform the activities required by the State's air quality implementation plan.

We reviewed the turnover of DEC employees at the upper and middle management levels and found that one of the two deputy commissioners and a chief chemist had recently left DEC and that three director positions had been vacant for several years. The deputy commissioner of DEC advised us that the commissioner had not yet decided whether to promote any of the other staff members to the vacant positions of director of enforcement, director of technical services, and director of research and development. He said also that filling these positions with qualified persons from outside DEC would be difficult because of the low salaries authorized for the positions.

The chief chemist and assistant chief chemist positions were vacant. The deputy commissioner said that the major obstacles to filling these positions were the lack of qualifications of the persons applying for the positions, the low salary levels, and the requirement that city employees live in Chicago. We did not examine into the comparability of the salaries of DEC employees with those of similar positions of other governmental agencies or private industry, but we did note that the pay scale for DEC employees had increased about 10.5 percent between 1970 and 1972.

Our prior examination showed that Chicago had not maintained sufficiently detailed records to provide information on the type and extent of training furnished to DEC employees. Limited data available had indicated that training was primarily for executive management and technical-professional staff members rather than for inspectors or engineering technicians. As of September 1972 DEC did not have a formal, systematic training program or complete records of training furnished to its employees. Our examination of the limited data available, however, showed that DEC employees in all job classifications had been receiving some in-house training and some training from the Chicago Civil Service Commission, EPA, and private sources.

#### EPA RECOMMENDATIONS TO DEC

In May 1970 four technical staff members of the Department of Health, Education, and Welfare's Air Pollution Control Office (now part of EPA) made a 2-day visit to Chicago and reviewed DEC's operations to determine areas of program weakness and to make recommendations for improving program effectiveness. Their report contained many recommendations to the city. The deputy commissioner of DEC told us that the

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commissioner had asked all division heads to review the report and to make changes where necessary. The recommendations are listed below, together with information which we obtained on DEC's actions relating thereto.

Recommendation

The city should reevaluate the existing organization and functional activities for the purpose of avoiding duplication of activities.

DEC action

The deputy commissioner of DEC said that changes had not been made in the organization and functional activities of DEC, because DEC was organized functionally and there was no duplication of activities.

Recommendation

The city should initiate procedures for program planning.

DEC action

A program-planning and research division was established to initiate program planning. The deputy commissioner, DEC, told us that the work of the division had been limited to conducting special projects. He said that the effectiveness of the division had been hampered due, in part, to the division director's position's being vacant for at least 2 years.

Recommendation

The city should develop a program of continuing education and training to keep the staff abreast of program and technological changes.

DEC action

DEC did not have a formal, systematic program for training. Employees in all job classifications had been receiving some in-house training and some training from the Chicago Civil Service Commission, EPA, and private sources. (See p. 9.)

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Recommendation

The city should review and update field service position qualifications and requirements to increase the level of capability of staff.

DEC action

Technicians and inspectors now generally meet the requirements of their position descriptions. Our examination of the requirements for seven position classifications showed that after 1970 the requirements for four positions had been upgraded and the requirements for two position classifications appeared to have been relaxed. The requirements for the seventh position (inspector) have remained unchanged.

Recommendation

The city should make a major effort to complete and update emission inventories.

DEC action

EPA regional and Illinois officials expressed the belief that DEC did not have a complete emission inventory. We found that DEC had compiled an inventory of fuel combustion sources and had recently completed an inventory of particulate emissions from industrial processes. Data on pollutants other than particulates was not readily available at DEC.

Recommendation

The city should develop additional use of telemetered air-monitoring network data to justify the time, money, and effort devoted to the network.

DEC action

EPA regional officials told us that they had questioned the effectiveness of DEC's telemetered air-monitoring network because the equipment was old and was not adequately maintained and because the method used to measure sulphur dioxide was not acceptable. The assistant director of DEC's technical services division told us that, contingent upon obtaining additional funds, DEC planned to purchase more sophisticated

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and reliable equipment which should (1) result in a reduction in the maintenance required and (2) provide a better method for measuring sulphur dioxide.

### Recommendation

The city should maintain an inventory of equipment and location and maintenance records.

### DEC action

DEC did not have a complete equipment inventory or adequate control of equipment purchased with Federal funds. As stated on page 7, however, DEC planned to hire a staff accountant who would be responsible for maintaining the recommended equipment inventory and maintenance records.

### NEED FOR BETTER COOPERATION AMONG STATE AND LOCAL AIR POLLUTION CONTROL AGENCIES IN THE CHICAGO CONTROL REGION

The air quality implementation plans for Illinois and Indiana were officially submitted to EPA on January 31, 1972, and, with certain exceptions, were approved by the Administrator. We were advised by the directors of the States' air pollution control agencies that action had been taken to satisfy the exceptions.

In carrying out the provisions of its plan, a State may use the capabilities of local air pollution control agencies for enforcement, air monitoring, and other activities. The July 1972 Federal regulations state that EPA will provide grant funds to a municipal air pollution control agency only for that part of the agency's program which relates to its responsibilities as defined in the State implementation plan. Illinois and Indiana have assigned certain responsibilities in their implementation plans to the local agencies within the Chicago control region.

DEC's role includes air monitoring; episode control; enforcement; and, for minor point sources of air pollution, surveillance and issuance of permits. The deputy commissioner of DEC informed us, that although the city had agreed to the role assigned to it in the implementation plan, the city was not satisfied with its role and intended to carry out a more extensive air pollution control program than that agreed to by the State--in effect duplicating some of the State's operations.

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DEC's most recent air pollution control grant application, dated July 1972, included estimates of 146 employees for the part of its air pollution control program supported with Federal funds and 36 employees for the part of its air pollution control program not supported by Federal grant funds. EPA considered certain DEC activities ineligible for Federal grant support because such activities were not required of DEC in accomplishing the role which Illinois prescribed for it as a municipal air pollution control agency.

A potential problem area exists between DEC and the State agency that involves the State's plan to issue permits to major sources of pollution within Chicago. The deputy commissioner of DEC informed us that the city would continue to issue such permits. The Chief of the Program Development Section of EPA's region V advised us that there was little or no cooperation between the city and State agencies. The division manager of the State agency expressed the belief that DEC would do everything in its power to retain control over all aspects of air pollution control in the city.

We have also been informed by EPA regional staff and by the directors of both State agencies that there is no formal agreement of cooperation between the States for interstate air pollution control. Any cooperation that exists is voluntary and has been limited to some exchanges of air-monitoring data and to participation in emergency episode plans.

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The information contained in this report has been discussed with officials of EPA and DEC, but formal written comments have not been obtained from them or from Illinois and Indiana. We plan no further distribution of this report unless copies are specifically requested and then only after your agreement has been obtained or you have publicly announced its contents.

Sincerely yours,

  
Comptroller General  
of the United States

The Honorable Charles H. Percy  
United States Senate