

EPA 902/7-78-008

COMPUTERIZATION OF THE NEW YORK  
INCINERATOR FILES

September 1978

FINAL REPORT



U.S. Environmental Protection Agency  
Region II  
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New York, New York 10007

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16. ABSTRACT  <p>Fred C. Hart Associates, Inc. assisted the New York State Department of Environmental Conservation (NYSDEC) in transferring data on operational incinerators in New York City to the Department's computerized emission inventory and administrative control system.</p> <p>The upgrading of the New York City incinerator files will benefit three levels of government--City, State, and Federal. Both the City and State will utilize the data for administrative control and emission inventory purposes. The U.S. Environmental Protection Agency will input the information in the National Emissions Data System (NEDS). The information can be used in the development of appropriate strategies for achieving and maintaining national ambient air quality standards.</p>		
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## Introduction

The purpose of this contract was to transfer data on incinerators from the City of New York files to the New York State Department of Environmental Conservation (NYSDEC) computerized emission inventory and administrative control system. The data ultimately will be utilized in the United States Environmental Protection Agency (EPA) National Emissions Data System (NEDS) program.

Description of the New York City Incinerator Program. The Department of Air Resources is the agency within the City of New York responsible for air pollution control and noise abatement. The Department is the responsible agent designated by the State of New York to carry out certain functions of the New York State Air Quality Implementation Plan as required by the Federal Clean Air Act.

New York City has more incinerators than any other jurisdiction in the country. There are six municipal incinerators and over 5,000 on-site or apartment house incinerators. Prior to 1930, on-site incinerators were rarely installed in City apartment houses. Shortly before World War II when solid waste collection and disposal became a sizeable burden to the City's finances, labor, and disposal capability, the City required that on-site incinerators be constructed in new apartment buildings. The post-War period was one of sizeable apartment construction leading to a peak number of 17,000 incinerators in the City's apartment buildings.

New York City has been concerned with its air quality since the 1950's but in 1965 a substantial effort to evaluate and resolve the problem began. In 1965, the Department of Air Pollution Control had 65 people. Eight years later the staff was 377--a six-fold increase.

In 1965, an emissions inventory was prepared which estimated the contributions of on-site incinerators to be nearly 25 percent of the total emissions of suspended particulate and nearly 50 percent of the maximum ground level concentrations.

With this background, the New York City Council with the support of the Mayor and many civic groups, passed Local Law 14 of 1966 which set controls on incinerators and oil burners then in existence, limited future construction of incinerators, and also limited the sulphur content of fuel oil.

Administrative and legal steps were taken by the real estate industry which delayed enforcement of this law over a period of years. The law was amended in 1968 to recognize the reality of this delay, and finally was included in the comprehensive Air Pollution Control Code passed in 1971. The real estate industry legal suit "Oriental Boulevard vs. Heller" was rejected in the State courts in late 1970 and was refused a hearing by the Supreme Court in March, 1971. The result of these delays was that by the end of 1970, only eight percent of the 17,000 incinerators existing in New York City had been closed or received "certificates of operation."

A full scale enforcement effort (which was prevented by injunction during the hearing of the lawsuit) began in late 1970 and over the next three years, 200 to 500 incinerators were modified or shut down each month so that by the end of 1973, only 6,000 incinerators had not been permitted or closed down. This effort of enforcement and engineering review has continued over the past four years but has declined as budget cuts have reduced engineering and enforcement staff, and as the general economy in New York City has reduced the ability of private owners and public assistance housing to finance the needed modifications.

The Incinerator Control Program. When the owner of an incinerator was interested in receiving a "certificate of operation" for an incinerator, he filed an application and a set of plans through an agent (professional engineer). The set of plans, submitted on forms prepared by the City of New York, contained sufficient information to demonstrate that the required criteria for incinerator modification was fulfilled.\*

The application was sent to the Department's Bureau of Engineering, and after being logged in and given a control number, was passed on to an engineer within the Bureau for review. If the engineer found deficiencies in the applications, a "notice of disapproval" listing the areas in need of correction was set to the filer. The filer in most cases corrected the deficiencies and submitted an "amendment" to the

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\* If the apartment house was small, the owner could shut down the incinerator or, no matter the size, the owner could also shut down the incinerator if a waste compactor was installed to handle solid waste.

application for review. In some cases, the filer could appeal the disapproval to the Director of Engineering or to a specially constituted Review Board headed by the Deputy Commissioner. In the case of the Review Board, a record of the decision was placed in the files and an amendment to the application was then made by the filer.

After all disapprovals were remedied, the Department issued a work permit, and work towards modification of the incinerator could begin. After the work was completed, the filer asked for inspection of the work. A member of the Bureau of Engineering field unit then went to the site and inspected the completed installation. If any deficiencies were found, a "notice of disapproval" was issued listing the deficiencies. The deficiencies were generally corrected or occasionally appealed to the Review Board. After resolution, the filer submitted a letter to the Department indicating the correction of the deficiencies and requesting a reinspection. After a field inspection was conducted which showed that the deficiencies were corrected, a "certificate of operation" was issued permitting operation of the incinerator for a period of three years.

The application and modification procedures enumerated in the preceding paragraphs are still utilized by the Department to process new applications and amendment submittals. The information contained on the application form, incinerator schematic, certificate of operation, notice of disapproval, work permit, and amendments form the bulk of the data base requiring transcription onto the APC 5-R form.



### Details of Work Performed

As a result of the rapid pace of incinerator modifications, and the later budget cuts, the Department was never able to invest the time required to make its forms consistent with the needs of the State and Federal governments. Since the modification program was satisfying its goal of reducing air pollutant levels (average citywide suspended particulates dropped from 105 micrograms per cubic meter in 1970 to under the primary standard of 75 micrograms per cubic meter in 1973), government officials apparently preferred not to impede the progress at the expense of satisfying the need for consistent forms.

Now that the program of modification is under control, a new requirement exists--to accurately define emission sources so that air quality maintenance plans can be developed, implemented, and enforced. Therefore, there is the demonstrated need for upgrading the New York City incinerator files in order to make this data compatible for analysis and evaluation with data collected for the rest of New York State.

Work Tasks. The primary tasks involved in the successful completion of this work effort included: (1) a review of 3,776 New York City Department of Air Resources (NYCDAR), Bureau of Engineering incinerator files (containing information on approximately 5,000 incinerators) and the transcription of the requisite data onto a newly designed form--APC 5-R (Rev. 7/75); (2) key punching selected data fields from the APC 5-R forms and key verifying the results onto computer input cards; and

(3) making final corrections on any data cards that were identified by NYSDEC as containing incorrect information in the data field. The APC 5-R (Rev. 7/75) is depicted in Figure 1.

Productivity Summary. The number of New York City incinerator files actually transcribed totaled 3,766 (see Figure 2). However, it should be noted that approximately 20 percent of the files contained applications for a "certificate of operation" for more than one incinerator on a particular premise. Thus, the number of incinerators evaluated and reviewed approached the original estimate of 5,000 incinerators. The multiple-incinerator files can be identified by the next-to-last digit in the identifier code which indicates the number of emission points--i.e., the number of incinerators on a premise. For example, in the identifier file code which follows, three incinerators would be located in that particular facility: 2R10073089100003A.

The cumulative man-hours expended from the project's inception through March 10, 1978 (when transcription activities were completed) totaled 2,612.0 man-hours. This effort included 370 hours expended by the Project Manager in supervisory activities and in conducting the project-management administrative and report-preparation functions. Additionally, another 407.25 man-hours were expended at the project's inception, which was spent as project "start-up" time (100.5 man-hours) and on initial file transcription activities (306.75 man-hours). These initial files had to be redone due to minor scope-of-work contract modifications. This circumstance is reflected by the zero productivity

Figure 1. APC 5-R Form (Rev. 7/75).

APC 5-R (Rev. 7/75)		ENVIRONMENTAL PROTECTION ADMINISTRATION DEPARTMENT OF AIR RESOURCES 120 WALL STREET, NEW YORK, N. Y. 10005 BUREAU OF ENGINEERING REFUSE BURNING EQUIPMENT APPLICATION FOR CERTIFICATE OF OPERATION		OP	LOCATION	FACILITY	EMISSION	PT.	UNIT
				R			0	0	A
				0	0	0	0	A	
				0	0	0	0	A	
				0	0	0	0	A	
				0	0	0	0	A	
BLOCK _____ LOT _____ ZONING _____ (By Applicant)							0	0	A

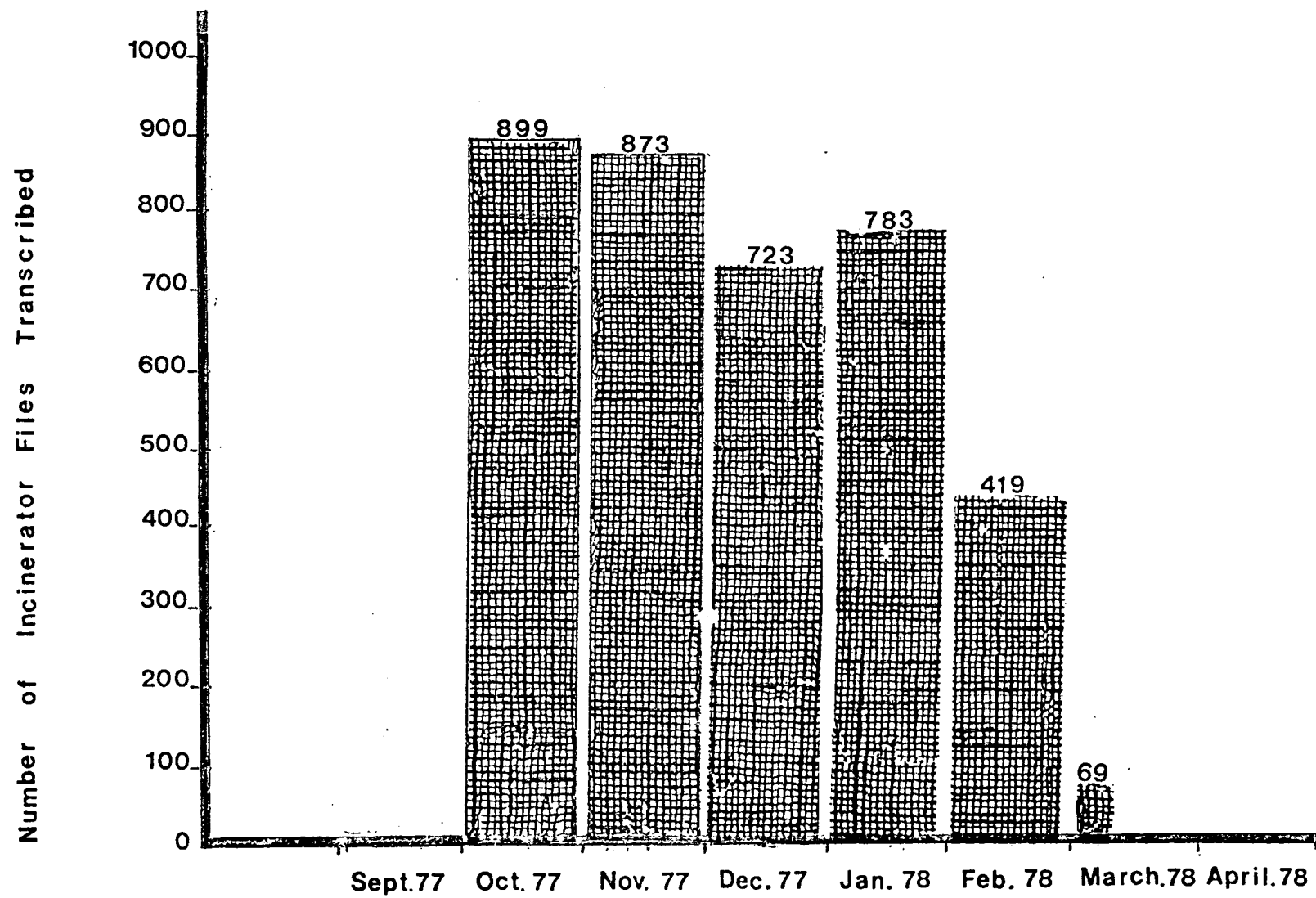
  

1. OWNER'S NAME:			FOR AGENCY USE ONLY		
2. NUMBER AND STREET ADDRESS			FEE: \$ _____ DATE OF RECEIPT _____ 19 _____		25. DATE APPLICATION RECEIVED ____/____/____
3. TOWN OR BORO			RECEIPT # _____ CASHIER _____		
4. STATE			26. IDENTIFICATION # _____		27. DATE APPLICATION REVIEWED ____/____/____
5. ZIP			28. APPLICATION FOR: A. NEW SOURCE C. EXISTING B. UPGRADING		
6. FACILITY CLASSIFICATION H. HOSPITAL L. BD. OF ED. A. COMMERCIAL C. UTILITY I. RESIDENTIAL M. NYC HOSPITAL B. INDUSTRIAL G. SCHOOL K. N.Y.C.H.A. N. _____			29. EMISSION PT. I.D. NO. _____		30. GROUND ELEV. _____ FT
7. OWNER OR OFFICER'S NAME			31. EXIT VELOCITY @ STD. COND. _____ FT/SEC		32. STACK HEIGHT ABOVE GROUND _____ FT
8. OWNER OR OFFICER'S SIGNATURE			33. STACK INSIDE DIMENSIONS (IN) GAS FLUE _____ CHARGING FLUE _____		
9. TELEPHONE			34. RECEPTION DISTANCE _____ FT		35. EXIT FLOW RATE _____ SCFM
10. NAME OF P.E.			36. REFUSE FEED TYPE _____		37. TWO FLUE SYSTEM - YES _____ NO _____ IF YES, THRU ROOF - 1 _____ 2 _____
11. TELEPHONE			38. INCINERATOR MAKE AND MODEL # _____		39. REFUSE TYPE _____
12. NUMBER AND STREET ADDRESS			40. LBS/DAY GENERATED _____		41. CHARGE (LBS/HR) _____
13. TOWN OR BORO			42. HRS/DAY _____		43. DAYS/YR _____
14. STATE			44. BURNS/DAY _____		45. RADIOACTIVE REFUSE YES _____ NO _____
15. ZIP			46. ADDITIONAL REFUSE TYPE _____		47. ARCH HEIGHT _____ FT
16. _____  I hereby certify to the best of my knowledge and belief to the accuracy of the technical information contained in this application, plans and any supplementary data submitted.  PLACE SEAL ABOVE			48. GRATE A. AREA (FT <sup>2</sup> ) _____		49. HEARTH B. AREA (FT <sup>2</sup> ) _____
17. NYS P.E. LIC. NO. _____			50. TOTAL C. AREA (FT <sup>2</sup> ) _____		51. VOLUME _____ FT <sup>3</sup>
18. SIGNATURE OF PROFESSIONAL ENGINEER			52. STORAGE HT. IN FLUE _____ FT		53. PLANEPORT AREA _____ FT <sup>2</sup>
19. FACILITY NAME (IF ANY)			54. HEIGHT ABOVE GRATE (FT) a) FLAMEPORT (b) OFA MANIFOLD (c) BURNER		
20. FACILITY LOCATION (NUMBER AND STREET ADDRESS)			55. SPARK ARRESTOR (12ga. 3/4 MESH, S.S.) a) YES _____ NO _____ b) HEIGHT _____ FT.		
21. BORO			56. TYPE 67. STATUS NEW EX. _____		57. MAKE _____ MODEL # _____
22. ZIP			58. RATED CAPACITY BTU/HR _____		59. FUEL TYPE _____
23. BLDG. SECTION OR NUMBER			60. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		61. BURNER ANGLED DOWN 10° YES _____ NO _____
24. FLOOR NAME OR NUMBER			62. TYPE 78. STATUS NEW EX. _____		63. MAKE _____ MODEL # _____
24a) NO. OF FLOORS			64. RATED CAPACITY BTU/HR _____		65. FUEL TYPE _____
24b) NO. OF APTS. TOTAL /INC. _____			66. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		67. BURNER ANGLED DOWN 10° YES _____ NO _____
24c) NO. OF ROOMS TOTAL /INC. _____			68. TYPE 88. STATUS NEW EX. _____		69. MAKE _____ MODEL # _____
24d) NO. OF INCINERATORS APPLIC. PREMISES _____			70. RATED CAPACITY BTU/HR _____		71. FUEL TYPE _____
WORK PERMIT WILL NOT BE ISSUED UNLESS: (a) INSTALLER IS NAMED AND (b) WORKMEN'S COMP. & DISABILITY ARE ON FILE WITH DAR			72. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		73. BURNER ANGLED DOWN 10° YES _____ NO _____
FINAL APPROVAL OF THE INSTALLATION IN THE FORM OF A CERTIFICATE OF OPERATION WILL NOT BE ISSUED UNTIL COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF LAW, RULE AND REGULATION OF THE N.Y.C. AIR POLLUTION CONTROL CODE HAS BEEN VERIFIED AT THE INSTALLATION SITE BY A REPRESENTATIVE OF THE DEPARTMENT.			74. TYPE 89. STATUS NEW EX. _____		75. MAKE _____ MODEL # _____
Company Name of Installer _____			76. RATED CAPACITY BTU/HR _____		77. FUEL TYPE _____
Company Address _____			78. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		79. BURNER ANGLED DOWN 10° YES _____ NO _____
Town or Boro _____ State _____ Zip _____			80. TYPE 98. STATUS NEW EX. _____		81. MAKE _____ MODEL # _____
			82. RATED CAPACITY BTU/HR _____		83. FUEL TYPE _____
			84. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		85. BURNER ANGLED DOWN 10° YES _____ NO _____
			86. TYPE 99. STATUS NEW EX. _____		87. MAKE _____ MODEL # _____
			88. RATED CAPACITY BTU/HR _____		89. FUEL TYPE _____
			90. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		91. BURNER ANGLED DOWN 10° YES _____ NO _____
			92. TYPE 99. STATUS NEW EX. _____		93. MAKE _____ MODEL # _____
			94. RATED CAPACITY BTU/HR _____		95. FUEL TYPE _____
			96. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		97. BURNER ANGLED DOWN 10° YES _____ NO _____
			98. TYPE 99. STATUS NEW EX. _____		99. MAKE _____ MODEL # _____
			100. RATED CAPACITY BTU/HR _____		101. FUEL TYPE _____
			102. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		103. BURNER ANGLED DOWN 10° YES _____ NO _____
			104. TYPE 99. STATUS NEW EX. _____		105. MAKE _____ MODEL # _____
			106. RATED CAPACITY BTU/HR _____		107. FUEL TYPE _____
			108. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		109. BURNER ANGLED DOWN 10° YES _____ NO _____
			110. TYPE 99. STATUS NEW EX. _____		111. MAKE _____ MODEL # _____
			112. RATED CAPACITY BTU/HR _____		113. FUEL TYPE _____
			114. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		115. BURNER ANGLED DOWN 10° YES _____ NO _____
			116. TYPE 99. STATUS NEW EX. _____		117. MAKE _____ MODEL # _____
			118. RATED CAPACITY BTU/HR _____		119. FUEL TYPE _____
			120. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		121. BURNER ANGLED DOWN 10° YES _____ NO _____
			122. TYPE 99. STATUS NEW EX. _____		123. MAKE _____ MODEL # _____
			124. RATED CAPACITY BTU/HR _____		125. FUEL TYPE _____
			126. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		127. BURNER ANGLED DOWN 10° YES _____ NO _____
			128. TYPE 99. STATUS NEW EX. _____		129. MAKE _____ MODEL # _____
			130. RATED CAPACITY BTU/HR _____		131. FUEL TYPE _____
			132. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		133. BURNER ANGLED DOWN 10° YES _____ NO _____
			134. TYPE 99. STATUS NEW EX. _____		135. MAKE _____ MODEL # _____
			136. RATED CAPACITY BTU/HR _____		137. FUEL TYPE _____
			138. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		139. BURNER ANGLED DOWN 10° YES _____ NO _____
			140. TYPE 99. STATUS NEW EX. _____		141. MAKE _____ MODEL # _____
			142. RATED CAPACITY BTU/HR _____		143. FUEL TYPE _____
			144. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		145. BURNER ANGLED DOWN 10° YES _____ NO _____
			146. TYPE 99. STATUS NEW EX. _____		147. MAKE _____ MODEL # _____
			148. RATED CAPACITY BTU/HR _____		149. FUEL TYPE _____
			150. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		151. BURNER ANGLED DOWN 10° YES _____ NO _____
			152. TYPE 99. STATUS NEW EX. _____		153. MAKE _____ MODEL # _____
			154. RATED CAPACITY BTU/HR _____		155. FUEL TYPE _____
			156. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		157. BURNER ANGLED DOWN 10° YES _____ NO _____
			158. TYPE 99. STATUS NEW EX. _____		159. MAKE _____ MODEL # _____
			160. RATED CAPACITY BTU/HR _____		161. FUEL TYPE _____
			162. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		163. BURNER ANGLED DOWN 10° YES _____ NO _____
			164. TYPE 99. STATUS NEW EX. _____		165. MAKE _____ MODEL # _____
			166. RATED CAPACITY BTU/HR _____		167. FUEL TYPE _____
			168. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		169. BURNER ANGLED DOWN 10° YES _____ NO _____
			170. TYPE 99. STATUS NEW EX. _____		171. MAKE _____ MODEL # _____
			172. RATED CAPACITY BTU/HR _____		173. FUEL TYPE _____
			174. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		175. BURNER ANGLED DOWN 10° YES _____ NO _____
			176. TYPE 99. STATUS NEW EX. _____		177. MAKE _____ MODEL # _____
			178. RATED CAPACITY BTU/HR _____		179. FUEL TYPE _____
			180. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		181. BURNER ANGLED DOWN 10° YES _____ NO _____
			182. TYPE 99. STATUS NEW EX. _____		183. MAKE _____ MODEL # _____
			184. RATED CAPACITY BTU/HR _____		185. FUEL TYPE _____
			186. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		187. BURNER ANGLED DOWN 10° YES _____ NO _____
			188. TYPE 99. STATUS NEW EX. _____		189. MAKE _____ MODEL # _____
			190. RATED CAPACITY BTU/HR _____		191. FUEL TYPE _____
			192. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		193. BURNER ANGLED DOWN 10° YES _____ NO _____
			194. TYPE 99. STATUS NEW EX. _____		195. MAKE _____ MODEL # _____
			196. RATED CAPACITY BTU/HR _____		197. FUEL TYPE _____
			198. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		199. BURNER ANGLED DOWN 10° YES _____ NO _____
			200. TYPE 99. STATUS NEW EX. _____		201. MAKE _____ MODEL # _____
			202. RATED CAPACITY BTU/HR _____		203. FUEL TYPE _____
			204. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		205. BURNER ANGLED DOWN 10° YES _____ NO _____
			206. TYPE 99. STATUS NEW EX. _____		207. MAKE _____ MODEL # _____
			208. RATED CAPACITY BTU/HR _____		209. FUEL TYPE _____
			210. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		211. BURNER ANGLED DOWN 10° YES _____ NO _____
			212. TYPE 99. STATUS NEW EX. _____		213. MAKE _____ MODEL # _____
			214. RATED CAPACITY BTU/HR _____		215. FUEL TYPE _____
			216. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		217. BURNER ANGLED DOWN 10° YES _____ NO _____
			218. TYPE 99. STATUS NEW EX. _____		219. MAKE _____ MODEL # _____
			220. RATED CAPACITY BTU/HR _____		221. FUEL TYPE _____
			222. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		223. BURNER ANGLED DOWN 10° YES _____ NO _____
			224. TYPE 99. STATUS NEW EX. _____		225. MAKE _____ MODEL # _____
			226. RATED CAPACITY BTU/HR _____		227. FUEL TYPE _____
			228. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		229. BURNER ANGLED DOWN 10° YES _____ NO _____
			230. TYPE 99. STATUS NEW EX. _____		231. MAKE _____ MODEL # _____
			232. RATED CAPACITY BTU/HR _____		233. FUEL TYPE _____
			234. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		235. BURNER ANGLED DOWN 10° YES _____ NO _____
			236. TYPE 99. STATUS NEW EX. _____		237. MAKE _____ MODEL # _____
			238. RATED CAPACITY BTU/HR _____		239. FUEL TYPE _____
			240. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		241. BURNER ANGLED DOWN 10° YES _____ NO _____
			242. TYPE 99. STATUS NEW EX. _____		243. MAKE _____ MODEL # _____
			244. RATED CAPACITY BTU/HR _____		245. FUEL TYPE _____
			246. DESIGN FIRING RATE BTU/HR OR GAL/HR _____		247. BURNER ANGLED DOWN 10° YES _____ NO _____

Figure 1. APC 5-R Form (Rev. 7/75).continued.

AUXILIARY EQUIPMENT																																																	
TYPE STATUS		EQUIPMENT		MAKE		MODEL #																																											
8	467. NEW EX.	468. BYPASS DAMPER MOTOR	470.					477. NEW EX.	478.																																								
	487. NEW EX.	489. OVERFIRE AIR (OFA) FAN	490.					497. NEW EX.	499. FRESH AIR FAN																																								
	491. OFA FAN DESIGN CFM @ 1 IN. W.C.	492. OFA FAN: INLET DAMPER -YES <input checked="" type="checkbox"/> INTERLOCKED WITH SCRUBBER-YES <input checked="" type="checkbox"/>	493. OFA MANIFOLD NOZZLES ANGLED DOWNWARD -YES <input checked="" type="checkbox"/>	501. F.A. FAN INTER-LOCKED WITH SCRUBBER -YES <input checked="" type="checkbox"/>	502. FRESH AIR FAN RATED CAPACITY IN. W.C. CFM	503. F.A. LOUVER AREA (FT <sup>2</sup> ): a) GROSS b) NET																																											
	494. OVERFIRE AIR MANIFOLD: a) DIAMETER (IN) b) NO. OF NOZZLES c) NOZZLE DIA. (IN)			504. FUSIBLE LINK LOUVER: YES <input type="checkbox"/> NO <input type="checkbox"/>			505. FRESH AIR DUCT: a) DIMEN. b) X-SECT. AREA c) LENGTH d) # OF BENDS																																										
506. TEMPERATURE & DRAFT SENSORS AT FLAMEPORT -YES <input checked="" type="checkbox"/>		571. AUTOMATIC CHARGING GATE: YES <input type="checkbox"/> NO <input type="checkbox"/>		IF YES, INTERLOCKED WITH SCRUBBER -YES <input checked="" type="checkbox"/>		572. ROOF DAMPER: YES <input type="checkbox"/> NO <input type="checkbox"/>		573. UNDERFIRE AIR NET REGISTER AREA IN <sup>2</sup>																																									
575. a) DAMPER PLATES MIN. 16 GA. S.S.- YES <input type="checkbox"/> OTHER, SPECIFY		b) DAMPER RODS MIN. 1/4" DIA. S.S.- YES <input type="checkbox"/> OTHER, SPECIFY		576. EQUIPMENT SURFACE TEMPERATURE, 160°F MAXIMUM - YES <input checked="" type="checkbox"/>		574. STAINLESS STEEL DEFLECTION EARS: a) IN FLUE YES <input type="checkbox"/> NO <input type="checkbox"/> b) FLAMEPORT YES <input type="checkbox"/> NO <input type="checkbox"/>		581. CONTROL PANEL MIN. 2 FT. FROM INCINERATOR AND IN INCINERATOR ROOM -YES <input checked="" type="checkbox"/>																																									
582. OTHER COMBUSTION EQUIPMENT: a) SAME ROOM YES <input type="checkbox"/> NO <input type="checkbox"/> b) SAME STACK YES <input type="checkbox"/> NO <input type="checkbox"/>																																																	
583. INTERNAL CROSS-SECTION DIMENSIONS (IN) - AREA (IN <sup>2</sup> )		584. MATERIAL OF CONSTRUCTION: a) 16 GA. MIN. S.S.- b) 12 GA. MIN. C.R.S. REFRACTORY LINED - c) NONE		585. CLEANOUT DOORS IN ALL CRITICAL LOCATIONS																																													
A) INLET		CHECK ONE: a) b)		YES <input checked="" type="checkbox"/>																																													
B) BYPASS		CHECK ONE: a) b) c)		YES <input checked="" type="checkbox"/>																																													
C) OUTLET		CHECK ONE: a) b)		YES <input checked="" type="checkbox"/>																																													
D) OUTLET IN FLUE		CHECK ONE: c) d) 12 GA. MIN. S.S. IF (d), LINTEL ACROSS TOP & BOLTED TO WALL - YES <input checked="" type="checkbox"/>		YES <input checked="" type="checkbox"/>																																													
SCRUBBER INDUCED DRAFT FAN																																																	
587. TYPE	588. STATUS	590. MAKE	MODEL #				591. RATED CAPACITY @ 70 F CFM " S.P.																																										
8	NEW EX.																																																
SCRUBBER																																																	
109. I.D. #	110. STATUS	111. TYPE	MODEL #																																														
01	NEW EX.	00																																															
113. % EFFICIENCY	114. DESIGN CFM @ 1600°F	115. PRESSURE DROP ACROSS SCRUBBER IN. W.C.	116. INLET TEMPERATURE TO SCRUBBER (°F)	117. EXIT TEMPERATURE FROM SCRUBBER (°F)	118. MATERIAL OF CONSTRUCTION: STAINLESS STEEL OTHER, SPECIFY																																												
SETTLING CHAMBER (S)																																																	
119. a) ON ROOF -YES <input type="checkbox"/> NO <input type="checkbox"/> b) IN INCINERATOR ROOM -YES <input type="checkbox"/> NO <input type="checkbox"/> IF YES TO (b), HOW MANY																																																	
120. POPULATION COUNT																																																	
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Figure 2: Incinerator Files Transcribed by Month



level for September, 1977, although 306.75 man-hours of work were expended. These forms required minor modifications which were accomplished over the following two months.

Deducting the Project Manager's administrative and supervisory commitments during the project (370 man-hours) and the start-up time (100.5 man-hours) for the project's other team members (e.g., training sessions), approximately 2,141.5 man-hours were actually spent in the process of transcribing 3,766 files. On the average, 1.76 files per man-hour were transcribed (or about 34 minutes per file on the average).

#### Utilization of Project Data

The upgrading of the New York City incinerator files will benefit three levels of government--City, State, and Federal.

Three distinct groups within the City can be expected to make use of the data. The Bureau of Engineering, which controls the files now, will have consistent files so that the program leading to the issuance of "certificates of operation" can be better monitored. The Bureau of Enforcement will be able to identify candidates for inspection as those lacking original certificates to operate, or lacking renewed certificates that are required triennially. Finally, the Bureau of Technical Services will use the information to assist in developing its emission inventory and additionally to modify its State Implementation Plan and Maintenance Plan, should that course of action be necessary.

The New York State Department of Environmental Conservation will utilize the information for two purposes:

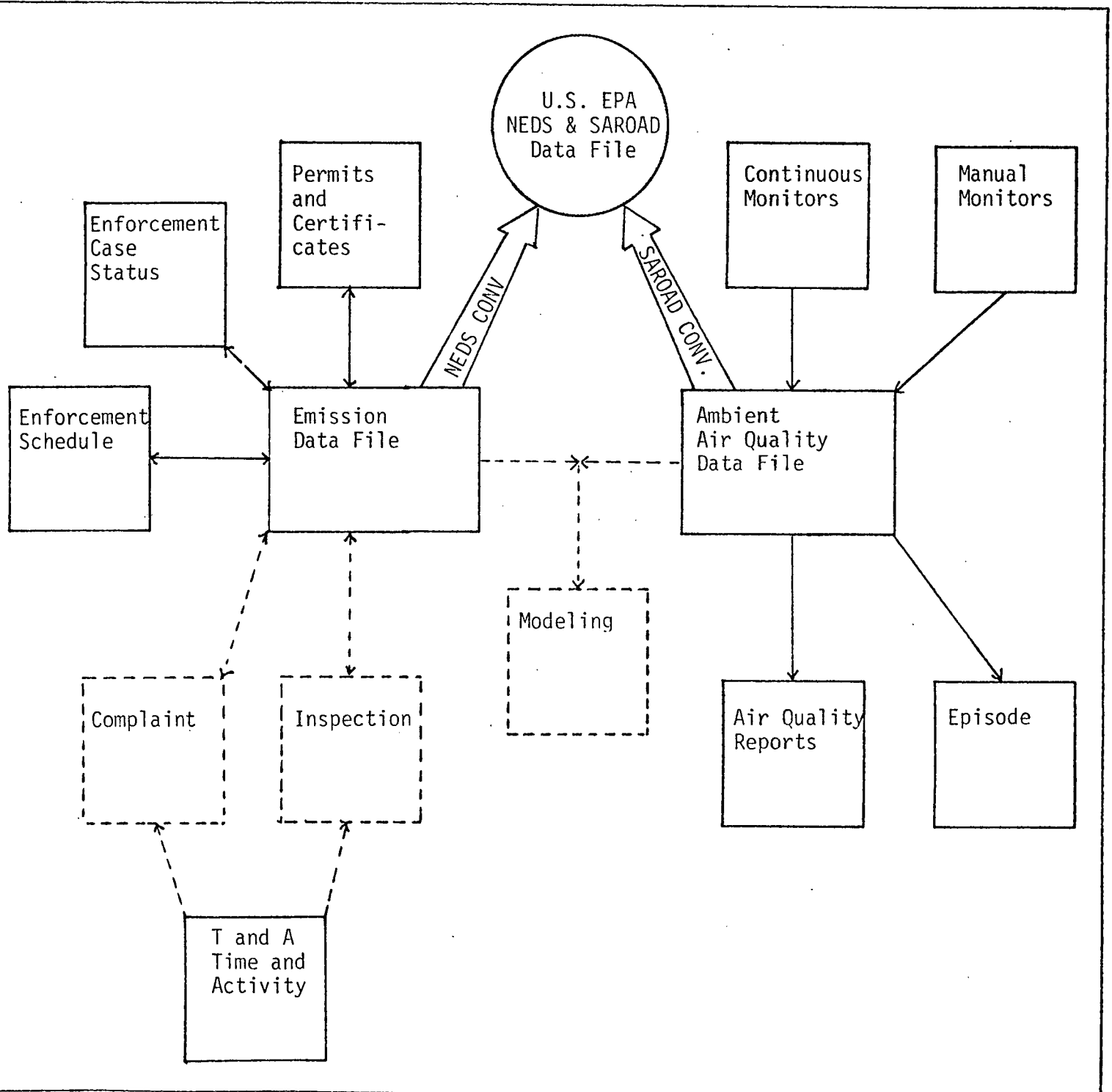
1. Administrative Control: identifying (a) the installations which have or do not have "certificates of operation" and (b) the certified installations which must have their certificates renewed; and,
2. Emission Inventory: for a compilation of State-wide emissions data.

The U.S. Environmental Protection Agency will input the information into the NEDS (National Emissions Data System) program. The flow of information from the appropriate New York State files into the NEDS system is indicated in Figure 3. The NEDS information allows a national compilation of emissions data. The information can be used in the development of appropriate strategies for achieving and maintaining national ambient air quality standards.

#### Conclusions and Recommendations

In summary, the undertaking to computerize the NYCDAR incinerator files will greatly enhance State and Federal attempts to standardize emission inventory and reporting requirements. A concomitant benefit is the expanded administrative control features of the program. By having the expiration dates for each "certificate of operation" in a computer data bank, the task of identifying and notifying those facilities which have certificates with imminent expiration dates can be standardized. The contractor recommends that NYSDEC furnish the NYCDAR enforcement

Figure 3: N.Y.S. AIR POLLUTION SOURCE MANAGEMENT AND AIR QUALITY MONITORING SYSTEM





division with a monthly printout report. At present, the owner (or his agent) is required to notify the Department's Triennial Office that a triennial inspection is necessary. The inherent weakness of such a notification system is obvious. During the course of transcribing file data, numerous facilities were discovered to be operating incinerators although the "certificates of operation" had expired one, two, and even three years ago. The implementation of an administrative reporting system will eliminate the problem of identifying facilities requiring triennial review.

In order to maintain the City's computerized incinerator file data base on a current basis, it will be necessary to devise a method to input additional data on a routine basis. The updating of the data base will serve three functions. First, it will allow for the incorporation of data on a facility issued a "certificate of operation" for the first time. Second, it will serve as a mechanism for updating file information on those facilities granted a triennial "certificate of operation". Third, it provides a method of inputting data contained in "amendments", such as equipment changes. As the NYCDAR has neither the facilities nor personnel to produce the requisite final product--i.e., a key punched computer card--the following procedure is recommended: At the time a certificate of operation or an amendment is issued or approved, a duplicate APC 5-R form should be completed by the NYCDAR engineer recording the information in the Department's files. In the case of inputting amendment data, it would require recording only the identifier code and the information on the amendment, rather than completing the

entire form. These modifications would then be submitted on a biweekly or monthly basis to the appropriate NYSDEC office currently maintaining the incinerator file data base. The NYSDEC office would be required to key punch the requisite data onto computer cards and subsequently incorporate the new information into the existing data base while deleting the outdated information.

The recommended update procedure is the most economically viable method of completing the update requirement utilizing the existing structure of the data base system. Performed on a routine basis, the updating of the incinerator file data base would not substantially increase present City and State personnel workloads, and would offer the impacted agencies the noted advantages of an up-to-date computerized emission inventory and administrative control system.