

John L. Kimberley *Executive Vice President*

Lead Industries Association, Inc. / Zinc Institute, Inc.

January 13, 1971

TO: ALL U.S. MEMBER COMPANIES OF LIA
ALL SUPPORTING COMPANIES OF ZI NOT INCLUDED WITH LIA

SUBJECT: WATER QUALITY ACT OF 1970 AS AMENDED
WHITE HOUSE EXECUTIVE ORDER
#11574 of December 23, 1970

ATTENTION: _____

Gentlemen:

The Federal Government under the subject Law and Executive Order, is entering upon a crash program intended to improve the quality of United States waterways and water bodies. If this mailing is a duplication of material from other sources - our apologies - but urgency is indicated and the enclosures and statements herewith may add to your knowledge of what is going to be required.

Enclosed are:

1. Copies of pages 20005-6-7-8 and 9 from the Federal Register (Volume 35 No. 253) of Thursday, December 31, 1970. This covers permits for discharge or deposits into navigable waters and other matters.
2. Copies of White House release of December 23 and the Executive Order #11574, also of December 23.
3. A copy of a descriptive statement "Effluent Requirements for Industrial Wastes".
4. A fact sheet "Initiation of a Permit Program Under the Refuse Act for Water Quality Enforcement Purposes".
5. A copy of a tabulation covering industries to be covered in the first year's work and including the listing of contractors who will be working with the various industries.
6. A copy of the Proposal by Gurnham and Associates, Inc. to FWQA-Environmental Protection Agency which has been accepted. Gurnham & Associates is the contractor who will be working with our industries.

 282 Madison Avenue, New York, N. Y. 10017

- 2 -

A large number of trade association executives were invited to Washington on Thursday, January 7, for a briefing on this problem. The Briefing was presented by the Water Quality Office, Environmental Protection Agency, which will be responsible for the development and enforcement of whatever regulations are forthcoming.

The Federal Agency would appear to be working against an existing difficult and quite likely impractical time schedule. It is intended that the Federal Agency know its course before May 1, 1971. They must establish:

1. The criteria to be used concerning industrial effluents. (No numbers to date).
2. The nature of the various types of water concerned.
3. The base level of effluents to be permitted.
4. The minimum effluents if controls are applied using the best technology.

This information will be needed in order for FWQA to evaluate permits which must be applied for starting July.

MISCELLANEOUS IMPORTANT CONSIDERATIONS:

- VITAL
- A - Prompt action will involve cooperation with contractors who have been retained as per attachment 5 to submit reports (I think by the end of February). The statement was flatly made that if industry chooses not to cooperate, the Government will go forward regardless. I have seen Gurnham & Associates of Chicago who has the contracts covering our industries. They will ask LIA and the ZI to help them and quite probably will forward questionnaires to be filled out by number or supporting companies. They may visit some plants.
 - B - Each industry will be asked to appoint or to suggest: one technically qualified individual to work on a committee to advise the Government and contractors. These committees will be called on to meet - perhaps one week's notice - before May 1 (perhaps much sooner). It is extremely doubtful that copies of contractors reports will be available in advance for committee consideration. (More on this later).
 - C - The existence of extreme executive pressure on the Water Quality Office was obvious. They were frank to admit that the original numbers to control effluents (as to be developed) will be subject to re-evaluation within three years maximum.
 - D - There apparently will be more than 2 levels of consideration and possibly 2 levels of standards depending upon whether

- 3 -

- a) the plant exists,
- b) is to be built,
- c) is to be modified,
- d) is on navigable stream or tributary or
- e) is so isolated that any water body is of no consequence.

E - Forms for permit application - to be submitted by industry before July 1, 1971 do not yet exist.

F - Industries not covered in the original ZI listed can expect action from Washington within one year.

G - Communications or questions on this development should be addressed to the Office of Water Quality Environmental Protection Agency, Washington, D.C. 20242. Mr. Michael LaGraff, Director of Technical Support is charged with major responsibility in the formation of the program. His telephone number is code 703-557-1944. Another man, seemingly well informed, is Mr. Albert Prints of the same address and code with telephone number 557-7725. Prints will apparently direct enforcement.

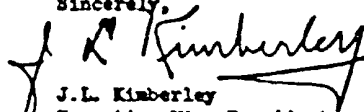
It is intended that this statement, with attachments, will permit you to make an advance study of the problem as it will relate to your operations and better prepare you for the permit application which will be required, by letter, if forms are not developed.

LIA and ZI are sending this information to no one else in your company.

You will shortly receive questionnaires from Gurnham and Associates. Please forward the presently enclosed documents promptly to the proper person in your organization and the questionnaires later.

JLK/gt
Encls.

Sincerely,


J.L. Kimberley
Executive Vice President

PROPOSED RULE MAKING

20005

each gondola car (#1 or #2) have no effect on the treatment of expenditures in connection with the other gondola car. With respect to gondola car #2, the expenditures of December 1970 are treated as deductible repairs at the time the income tax return for 1970 is filed because, based on the information available when the income tax return for 1970 is filed, such expenditure would be deductible by reason of application of section 363(e) but for the fact that it cannot be established whether the 50-percent limitation in paragraph (d)(1) of this section will be exceeded. Nevertheless, because such expenditures during the period of 12 calendar months including calendar months December 1970 and November 1971 exceed \$2,000, the December 1970 rehabilitation expenditures are not subject to the provisions of section 363(e). Because such rehabilitation expenditures during the period of 12 calendar months including calendar months February 1971 and January 1972 exceed \$2,000, rehabilitation expenditures in 1971 are not subject to the provisions of section 363(e). Similarly, the 1972 rehabilitation expenditures are not subject to the provisions of section 363(e).

(F.R. Doc. 70-17542; Filed, Dec. 20, 1970; 8:45 a.m.)

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

[33 CFR Part 209]

PERMITS FOR DISCHARGES OR DEPOSITS INTO NAVIGABLE WATERS

Proposed Policy, Practice, and Procedure

Notice is hereby given that the regulations set forth in tentative form below are proposed by the Secretary of the Army (acting through the Corps of Engineers). The proposed regulation prescribes the policy, practice, and procedure to be followed by all Corps of Engineers installations and activities in connection with applications for permits authorizing discharges or deposits into navigable waters of the United States or into any tributary from which discharged matter shall float or be washed into a navigable water (33 U.S.C. 407).

Prior to the adoption of the proposed regulation consideration will be given to any comments, suggestions, or objections thereto which are submitted in writing to the Office of the Chief of Engineers, Washington, D.C. 20314, Attention: ENOCW-ON, within a period of 45 days from the date of publication of this notice in the *FEDERAL REGISTER*.

Dated: December 23, 1970.

F. P. KOSSER,
Major General, U.S. Army,
Director of Civil Works.

§ 209.131 Permits for discharges or deposits into navigable waters.

(a) **Purpose and scope.** This regulation prescribes the policy, practice, and procedure to be followed by all Corps of Engineers installations and activities in connection with applications for permits authorizing discharge or deposits

into navigable waters of the United States or into any tributary from which discharged matter shall float or be washed into a navigable water.

(b) **Law and executive order authorizing permits.** (1) Section 13 of the Act approved March 3, 1899 (33 U.S.C. 407), hereafter referred to as the "Refuse Act," provides in part that it is unlawful "to throw, discharge, or deposit, or cause, suffer, or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other floating craft of any kind, or from the shores, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States, or into any tributary of any navigable water from which the same shall float or be washed into such navigable water . . . And provided further, That the Secretary of the Army, whenever in the judgment of the Chief of Engineers anchorage and navigation will not be injured thereby, may permit the deposit of any material above mentioned in navigable waters, within limits to be defined and under conditions to be prescribed by him, provided application is made to him prior to depositing such material; and whenever any permit is so granted the conditions thereof shall be strictly complied with, and any violation thereof shall be unlawful."

(2) Executive Order No. 11574 (dated December 23, 1970) directs the implementation of a permit program under the authority of the Refuse Act and provides for the cooperation of affected Federal agencies in the administration of the program.

(c) **Related legislation.** (1) Section 21 (b) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1151 et seq.) (see particularly the Water Quality Improvement Act of 1970 (Public Law 91-224, 84 Stat. 108)), reflects the concern of the Congress with maintenance of applicable water quality standards and, subject to certain exceptions, requires any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities which may result in a discharge into the navigable waters of the United States to provide with his application an appropriate certification that there is reasonable assurance that such activity will be conducted in a manner which will not violate applicable water quality standards. Hereafter, section 21(b) will be referred to as a section of the Water Quality Improvement Act of 1970.

(2) The concern of the Congress with the need to encourage the productive and enjoyable harmony between man and his environment and the need to promote efforts which will prevent or eliminate damage to the environment was manifested in the enactment of the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347). Section 102 of that Act directs that:

to the fullest extent possible: (1) The policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

(3) Identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title 12 of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations . . .

(3) The concern of the Congress with the conservation and improvement of fish and wildlife resources is indicated in the Fish and Wildlife Coordination Act (16 U.S.C. 661-666c), wherein consultation with the Department of the Interior is required regarding activities affecting the course, depth, or modification of a navigable waterway.

(d) **General policy.** (1) Except as otherwise provided in the Refuse Act (33 U.S.C. 407), all discharge, or deposits into navigable waters of the United States or tributaries thereof are, in the absence of an appropriate Department of the Army permit, unlawful. The fact that official objection may not have yet been raised with respect to past or continuing discharges or deposits should not be interpreted as authority to discharge or deposit in the absence of an appropriate permit, and will not preclude the institution of legal proceedings in appropriate cases for violation of the provisions of the Refuse Act. Similarly, the mere filing of an application requesting permission to discharge or deposit into navigable waters or tributaries thereof will not preclude legal action in appropriate cases for Refuse Act violations.

(2) The decision as to whether a permit authorizing a discharge or deposit will or will not be issued under the Refuse Act will be based on an evaluation of the impact of the discharge or deposit on (i) anchorage and navigation, (ii) water quality standards, which under the provisions of the Federal Water Pollution Control Act, were established "to protect the public health or welfare, enhance the quality of water and serve the purposes" of that Act, with consideration of "their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses," and (iii) in cases where the Fish and Wildlife Coordination Act is applicable (where the discharge for which a permit is sought impounds, diverts, deepens the channel, or otherwise controls or similarly modified the stream or body of water into which the discharge is made), the impact of the proposed discharge or deposit on fish and wildlife resources which are not directly related to water quality standards.

(3) Although the Refuse Act vests in the Secretary of the Army authority to determine whether or not a permit should or should not issue, it is recognized that responsibility for water quality improvement lies primarily with the States and, at the Federal level, with the

20006

PROPOSED RULE MAKING

Environmental Protection Agency (EPA). Accordingly, EPA shall advise the Corps with respect to the meaning, content, and application of water quality standards applicable to a proposed discharge or deposit and as to the impact which the proposed discharge or deposit may or is likely to have on applicable water quality standards and related water quality considerations. Specifically, Regional Representatives of EPA will determine and advise District Engineers with respect to the following:

(i) The meaning and content of water quality standards which, under the provisions of the Federal Water Pollution Control Act, were established "to protect the public health or welfare, enhance the quality of water and serve the purposes" of that Act, with consideration of "their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses";

(ii) The application of water quality standards to the proposed discharge or deposit, including the impact of the proposed discharge or deposit on such water quality standards and related water quality considerations;

(iii) The permit conditions required to comply with water quality standards;

(iv) The permit conditions required to carry out the purposes of the Federal Water Pollution Control Act where no water quality standards are applicable;

(v) The interstate water quality effect of the proposed discharge or deposit.

(4) In any case where a District Engineer of the Corps has received notice that a State or other certifying Agency has denied a certification prescribed by section 21(b) of the Federal Water Pollution Control Act or, except as provided in subparagraph (e) of this paragraph, where a Regional Representative has recommended that a permit be denied because its issuance would be inconsistent with his determination or interpretation with respect to applicable water quality standards and related water quality considerations, the District Engineer, within 30 days of receipt of such notice, shall deny the permit and provide notice of such denial to the Regional Representative of EPA.

(5) In the absence of any objection by the Regional Representative to the issuance of a permit for a proposed discharge or deposit, District Engineers may take action denying a permit only if:

(i) Anchorage and navigation will be impaired; or

(ii) Where the discharge for which a permit is sought impounds, diverts, deepens the channel, or otherwise controls or similarly modifies the stream or body of water into which the discharge is made, and after the consultations required by the Fish and Wildlife Coordination Act, the District Engineer determines that the proposed discharge or deposit will have a significant adverse impact on fish or wildlife resources.

(6) In any case where the District Engineer believes that following the advice of the Regional Representative with

respect to the issuance or denial of a permit would not be consistent with the purposes of the Refuse Act permit program, he shall, within 10 days of receiving such advice, forward the matter through channels to the Secretary of the Army to provide the Secretary with the opportunity to consult with the Administrator. Such consultation shall take place within 30 days of the date on which the Secretary receives the file from the District Engineer. Following such consultation, the Secretary shall accept the findings, determinations, and conclusions of the Administrator as to water quality standards and related water quality considerations and shall promptly forward the case to the District Engineer with instructions as to its disposition.

(7) No permit will be issued in cases where the applicant, pursuant to 21(b)(1) of the Water Quality Improvement Act of 1970, is required to obtain a State or other appropriate certification that the discharge or deposit would not violate applicable water quality standards and such certification was denied. No permit will be issued for discharges or deposits of harmful quantities of oil, as defined in section 11 of the Federal Water Pollution Control Act since primary permit and enforcement authority for all oil discharges is contained in that Act.

(e) *Authority to issue permits.* The Refuse Act provides that "the Secretary of the Army, whenever in the judgment of the Chief of Engineers that anchorage and navigation will not be injured thereby, may permit the deposit of any material . . . in navigable waters, within the limits to be defined and under conditions to be prescribed by him . . ." The Chief of Engineers, in the exercise of his judgment under the Act, has made the general determination that anchorage and navigation will not be injured when the discharge or deposit permitted will cause no significant displacement of water or reduction in the navigable capacity of a waterway. Except as otherwise provided in this regulation, the Secretary of the Army has authorized the Chief of Engineers and his authorized representatives to issue permits allowing discharges or deposits into navigable waters or tributaries thereof, if evaluation leads to the conclusion that (1), as determined by the Chief of Engineers, anchorage and navigation will not be injured thereby, and (2) issuance of a permit will not be inconsistent with the policy guidance prescribed in paragraph (d) of this section. Accordingly, within these limitations, District Engineers are authorized, except in cases which are to be referred to higher authority for decision (see paragraphs (d) (6) and (i) (7) of this section), to issue permits or to deny permit applications for discharges or deposits covered by the Refuse Act.

(f) *Relationship to other corps permits.* (1) Operators of facilities constructed in navigable waters under a valid construction permit issued pursuant to section 10 of the Rivers and

Harbors Act approved March 2, 1899 (33 U.S.C. 402) must apply for and receive a new permit under the Refuse Act (33 U.S.C. 407) in order to lawfully discharge into or place deposits in navigable waters or tributaries thereof.

(2) Any person wishing to undertake work in navigable waters which may also result in a discharge or deposit into such navigable waters or tributaries thereof must apply for a permit under section 402 for such work and for a permit under section 407 to cover any proposed discharge or deposit. However, if the work proposed to be undertaken in navigable waters is limited to the construction of a minor outfall structure from which the proposed discharge or deposit will flow, District Engineers may, in their discretion and within the guidance provided in ER 1145-3-303, require a single permit application under this regulation (ER 1145-2-321). If a single permit is issued authorizing both work in navigable waters and a discharge or deposit, the permit should cite both sections 402 and 407 as authority for its issuance.

(g) *Information required with an application.* (1) An applicant for a permit involving a discharge or deposit in navigable waters or tributaries thereof must file the required form with the District Engineer. Until the required form is printed and made available to District Offices, applicants should provide a letter requesting that the permit be issued. The letter must bear the address of the applicant and the date, identify the waterway involved and the precise location of the proposed discharge or deposit and contain a statement as to whether the facility from which the proposed discharge or deposit will originate is within the corporate limits of a municipality. The applicant must also furnish information which will fully identify the character of the discharge or deposit and monitoring devices and procedures which will be used. Such information shall include, but need not be limited to, data pertaining to chemical content, water temperature differentials, toxins, sewage, amount and frequency of discharge or deposit and the type and quantity of solids involved, if any. If the discharge or deposit will include solids of any type, applicants must (i) identify the proposed method of instrumentation to determine the effect of the disposition of solids on the waterway, and (ii) either assume responsibility for the periodic removal of such solids by dredging or agree to reimburse the United States for costs associated with such dredging.

(2) An application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor. Each

PROPOSED RULE MAKING

20007

application must contain a certification by the person signing the application that he is familiar with the information provided and that to the best of his knowledge and belief such information is complete and accurate.

(b) *State certification.* (1) Section 21(b)(1) of the Water Quality Improvement Act of 1970 provides that "Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters of the United States, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that there is reasonable assurance, as determined by the State or interstate agency that such activity will be conducted in a manner which will not violate applicable water quality standards No license or permit shall be granted until the certification required by this section has been obtained or has been waived" (as provided in a portion of section 21(b)(1) not quoted here). In cases where certification is required and no express notice of waiver has been received from the certifying agency, District Engineers should, as a general rule, provide the certifying agency with a full year within which to take action before determining that a waiver has occurred. If, however, special circumstances (as identified by either the District Engineer or the Regional Representative) require that action on a permit application under the Refuse Act be taken within a more limited period of time, the District Engineer shall determine a reasonable lesser period of time, advise the certifying agency of the need for action by a particular date, and that if certification is not received by the date established that it will be considered that the requirement for certification has been waived. Sections 21(b)(7) and (b)(8) of the Act identify circumstances in which permits of limited duration may issue without the certification required by section 21(b)(1). See paragraph (b) of this section.

(2) In cases involving discharges or deposits from facilities the construction of which was not lawfully commenced prior to April 3, 1970, certification pursuant to 21(b)(1) is required. District Engineers may accept, but not fully process, any permit application until the applicant has provided the required certification. When persons who will eventually require a Department of the Army permit seek State or other certification they shall (i) provide the appropriate certifying agency with the information on the discharge or deposit required by paragraph (c)(1) of this section, and (ii) file a copy of the certification application with the District Engineer. These steps will facilitate the processing of any formal application which may later be filed with the District Engineer and will enable the District Engineer to determine

if the certification required is being waived by inaction on the part of the certifying authority.

(3) In cases involving a discharge or deposit from a facility, the actual construction of which was lawfully commenced prior to April 3, 1970, it will be the policy of the Corps of Engineers to accept but not to fully process any permit application until the applicant or the State has provided a letter from the State describing the impact of the proposed discharge or deposit and indicating the view of the State on the desirability of granting a permit. If such a letter is not provided within 1 year or within such lesser reasonable period of time as the District Engineer may have determined this requirement shall be waived.

(i) *Processing of permit applications.* (1) When an application for a permit is received, care should be taken to assure that the applicant has provided all of the information required by this regulation. Copies of applications received and all other information received relating thereto will be promptly forwarded by the District Engineer to the Regional Representative of EPA.

(2) If all of the required information has been provided but the applicant has failed to provide, as appropriate, the required certification or other letter discussed in paragraph (b) of the section, the applicant should be advised that no action will be taken on his application until the required certification or letter is provided or until a year or such lesser reasonable period of time as the District Engineer may have determined shall have expired and that his application will be processed only to the extent of sending a copy of the application to the Regional Representative of EPA.

(3) When all of the required information has been provided and the applicant has also provided, as appropriate, the required certification or letter discussed in paragraph (b) of this section, together with assurances that the character of the discharge or deposit was fully described to the State agency prior to the issuance of the certification or letter, the applicant shall be advised that his application is in order and that it will be processed as expeditiously as possible.

(4) When the application is found to be in order the District Engineer shall promptly forward a complete copy of the application or such additional information as has not already been furnished to the Regional Representative of EPA. The Regional Representative of EPA will be asked to review the application and to (i) advise the District Engineer within 30 days whether the proposed discharge or deposit may affect the quality of waters of another State (as required by section 21(b)(2) of the Water Quality Improvement Act of 1970), and (ii) provide the other information identified in paragraph (d)(3) of this section within 45 days. If, however, additional time beyond said 45 days (or any extension thereof) is required to respond, the Regional Representative shall notify the District Engineer and shall advise him as to the additional period of time which will be required to provide such informa-

tion. In cases where a Regional Representative does not provide such information and advice to a District Engineer within the time period specified herein (including any extensions of time required by the Regional Representative) the advice furnished by a State or other certifying authority shall be considered by the District Engineer to be the advice of the Regional Representative. In the event that the Regional Representative determines that the proposed discharge or deposit may affect the quality of the waters of any other State and so notifies the District Engineer, the matter should be reported to the Chief of Engineers, Attention: ENOOC-K. In such cases, special procedures are provided for in section 21(b)(2) of the Water Quality Improvement Act of 1970.

(5) At approximately the same time a completed copy of the permit application is furnished to the Regional Representative of EPA, a public notice, as described in paragraph (j) of this section, will be issued. Notice will also be sent to all parties known or believed to be interested in the application, including the appropriate Regional Director of the Department of the Interior, the National Oceanic and Atmospheric Administration of the Department of Commerce, navigation interests, State, county, or municipal authorities, adjacent property owners, the heads of State agencies having responsibility for water quality improvement and wildlife resources, and conservation organizations. Copies of the notice will be posted in post offices and other public places in the vicinity of the site of the proposed discharge or deposit. A copy of every notice issued will be sent to the Chief of Engineers, Attention: ENOCW-OW.

(6) If notice of the permit application evokes substantial public interest a public hearing may be held. Policy with respect to the holding and conduct of public hearings is discussed in paragraph (k) of this section.

(7) In the absence of objection by the Regional Representative of EPA or, in the cases involving the Fish and Wildlife Coordination Act, by the Regional Director of the Department of the Interior or the National Oceanic and Atmospheric Administration of the Department of Commerce, District Engineers may, consistent with the policy guidance contained in paragraph (d) of this section and, after considering all of the information developed with respect to the permit application, including written or oral information presented in response to a public notice or at a public hearing, issue a permit, with or without conditions. In the event that the District Engineer determines that issuance of the permit with or without conditions is appropriate but there is objection to the issuance of the proposed permit by the Regional Representative of EPA or, in cases involving the Fish and Wildlife Coordination Act, by the Regional Director of the Department of the Interior or the National Oceanic and Atmospheric Administration of the Department of Commerce, the matter must be forwarded to higher authority for decision. Every effort should be made to resolve differences

20008

PROPOSED RULE MAKING

at the District Engineer level before referring the matter to higher authority. In the event that differences cannot be resolved, District and Division Engineers will forward the application, copies of the public notice and addressees to whom sent, the comments of State and Federal agencies, a copy of the transcript of any public hearing held, a narrative report and recommendations to the Chief of Engineers, Attention: ENOCW-ON. In any case referred to the Secretary of the Army pursuant to paragraph (d)(6) of this section, consultation with the Administrator shall take place within 30 days of the date on which the Secretary receives the file from the District Engineer. Following such consultation, the Secretary shall accept the findings, determinations, and conclusions of the Administrator as to water quality standards and related water quality considerations and shall promptly forward the case to the District Engineer with instructions as to its disposition.

(1) **Public notice.** (i) As required by paragraph (i)(5) of this section a public notice will be issued after a permit application is determined to be in proper order. In cases where the permit applied for pertains to a discharge or deposit and does not involve construction or other work in navigable waters, the notice shall (i) state the name and address of the applicant, (ii) identify the waterway involved and provide a sketch showing the location of the proposed discharge or deposit, (iii) fully identify the character of the discharge, (iv) include any other information which may assist interested parties in evaluating the likely impact of the proposed discharge or deposit, if any, (v) provide 30 days within which interested parties may express their views concerning the permit application. All public notices involving a proposed discharge or deposit shall contain the following statement:

The decision as to whether a permit authorizing a discharge or deposit will or will not be issued under the Refuse Act will be based on an evaluation of the impact of the discharge or deposit on (1) anchorage and navigation, (2) water quality standards and related water quality considerations as determined by State authorities and the Environmental Protection Agency, and (3) in cases where the Fish and Wildlife Coordination Act is applicable (where the discharge for which a permit is sought impounds, diverts, deepens the channel, or otherwise controls or similarly modifies the stream or body of water into which the discharge is made), the impact of the proposed discharge or deposit on fish and wildlife resources.

(2) Comments received from interested parties within the period provided for in the public notice will be retained and will be considered in determining whether the permit applied for should be issued.

(3) When a response to a public notice has been received from a Member of Congress, either in behalf of a constituent or himself, the Division or District Engineer will inform the Member of Congress of the final action taken on the application.

(4) When objections to the issuance of a permit are received in response to a

public notice, the Division or District Engineer will furnish the applicant with copies of the objections and afford him the opportunity to rebut or resolve the objections.

(k) **Public hearings.** (1) It is the policy of the Corps of Engineers to conduct the civil works program in an atmosphere of public understanding, trust, and mutual cooperation and in a manner responsive to the public interest. To this end, a public hearing may be helpful and will be held in connection with an application for a permit involving a discharge or deposit in navigable waters or tributaries thereof whenever, in the opinion of the District Engineer such a hearing is advisable. In considering whether or not a public hearing is advisable, consideration will be given to the degree of interest by the public in the permit application, requests by responsible Federal, State, or local authorities, including Members of the Congress, that a hearing be held, and the likelihood that information will be presented at the hearing that will be of assistance in determining whether the permit applied for should be issued. In this connection, a public hearing will not generally be held if there has been a prior hearing (local, State, or Federal) addressing the proposed discharge unless it clearly appears likely that the holding of a new hearing may result in the presentation of significant new information concerning the impact of the proposed discharge or deposit. The need for a hearing will be reported to the Division Engineer and his concurrence obtained. In certain circumstances a public hearing may be mandatory (see subparagraph (4) of this paragraph).

(2) The success of a public hearing depends upon the degree to which all interests are aware of the hearing and understand the issues involved. The following steps will be taken for each hearing:

(i) A public notice will be prepared and issued in clear, concise, objective style, stating the purpose of the hearing; details of time and place; description of the application involved; and identification of the proposed discharge or deposit. Care will be exercised to avoid creating any impression that the Corps is an advocate or adversary in the matter.

(ii) The Public Notice will be issued sufficiently in advance of the hearing, generally not less than 30 days, to allow time for interested persons to prepare for the hearing. It will be distributed to addressees on compiled lists and will include all known parties directly affected, all governmental entities concerned, all general public news media within the geographical area, appropriate specialized news media for reaching interested groups and organizations, and directly to the principal officers of such groups and organizations, including national officers of nationwide organizations.

(iii) As appropriate, supplementary informational matter, fact sheets, or more detailed news releases, will be distributed to the general or specialized news media, or other groups and interests involved.

(iv) Notification will be given to interested members of the Congress and Governors of the States involved.

(3) The hearing will be conducted in a manner that permits open and full advocacy on all sides of any issues involved. A transcript of the hearing, together with copies of relevant documents, will become a part of the permit application assembly.

(4) In addition to the hearings which may be required by the policy specified in the preceding paragraphs, hearings are required under sections 21(b)(2) and 21(b)(4) of the Water Quality Improvement Act of 1970 when (i) a State, other than the State of origin, objects to the issuance of a permit and requests a hearing on its objections or (ii) the Secretary of the Army proposes to suspend a Department of the Army permit upon notification by the certifying authority that applicable water quality standards will be violated. When a hearing is required pursuant to the Water Quality Improvement Act of 1970 the matter should be reported to the Chief of Engineers, Attention: ENOCOC-K. The Chief of Engineers will provide additional guidance with respect to holding of such hearings.

(5) In any case, when a District Engineer intends to schedule a public hearing he shall notify the Regional Representative of EPA not less than 10 days in advance of the deadline for filing of comments by the Regional Representative upon the permit application so that the Regional Representative will be able to defer such comments until after the public hearing has been held.

(l) **Environmental impact statement.** (1) Section 102(2)(c) of the National Environmental Policy Act of 1969 requires all Federal agencies, with respect to major Federal actions significantly affecting the quality of the human environment, to submit to the Council on Environmental Quality a detailed statement on

(i) The environmental impact of the proposed action.

(ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented.

(iii) Alternatives to the proposed action.

(iv) The relationship between local short-term use of man's environment and the maintenance and enhancement of long-term productivity, and

(v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

(2) Section 102(2)(c) statements will not be required in permit cases where it is likely that the proposed discharge will not have any significant environmental impact. Moreover, the Council on Environmental Quality has advised that such statements will not be required where the only impact of proposed discharge or deposit will be on water quality and related considerations. However, such statements may be required in connection with proposed discharges or deposits which may have a substantial environmental impact unrelated to water

PROPOSED RULE MAKING

20009

quality. In cases in which a section 102 (2)(c) statement may be required, the report of the District Engineer accompanying any case referred to higher authority (see paragraphs (d)(3) and (f)(7) of this section) will contain a separate section addressing the environmental impact of the proposed discharge or deposit, if any, and, if issuance of a permit is recommended, a draft section 102(2)(c) statement should be attached.

(m) **Publicity.** District Engineers will, in consultation with Regional Representatives, establish and maintain a program to assure that potential applicants for permits are informed of the requirements of this regulation and of the steps required to obtain permits for discharges into navigable waters. Whenever the District Engineer becomes aware of plans being developed by either private or public entities who will require permits in order to implement the plans a letter will be sent to the potential permittee advising him of statutory requirements and the need to apply for a permit under this regulation.

(n) **Duration of permits issued.** (1) In cases where appropriate certification has been received indicating that there is reasonable assurance that the proposed discharge or deposit will not violate applicable water quality standards and issuance is otherwise proper, no permit may be issued which authorizes a discharge or deposit for more than 5 years without providing for revalidation of such permit.

(2) In cases involving a facility, the construction of which was lawfully undertaken prior to April 2, 1970, and it appears after evaluation that issuance of a permit would be appropriate although certification has not been provided, a permit may be issued provided (i) that the permit will expire on April 2, 1973, and (ii) that it is conditioned so as to require annual demonstration by the permittee that the discharge or deposit is in compliance with State water quality implementation schedules.

(o) **Permit conditions.** (1) Until a standard permit form is developed, every permit shall, as a minimum:

(i) Require compliance with applicable water quality standards, including implementing schedules adopted in connection with such standards;

(ii) Include provisions incorporating into the permit changes in water quality standards subsequent to the date of the permit, and requiring compliance with such changed standards;

(iii) Provide for possible suspension or revocation in the event that the permittee breaches any condition of the permit;

(iv) Provide for possible suspension, modification or revocation if subsequent to the issuance of a permit it is discovered that the discharge or deposit contains hazardous materials which may pose a danger to health or safety.

(2) Permits shall also be subject to conditions as determined by EPA to be necessary for purposes of insuring compliance with water quality standards or

the purposes of the Federal Water Pollution Control Act. Such conditions may include but are not necessarily limited to:

(i) Requirements for periodic demonstrations of compliance with water quality criteria, established implementation schedules or prescribed levels of treatment;

(ii) Site and sampling accessibility;

(iii) Requirements for periodic reports as to the nature and quantity of discharges or deposits.

(P.R. Doc. 70-17584; Filed, Dec. 30, 1970; 8:48 a.m.)

DEPARTMENT OF THE INTERIOR

Bureau of Mines

[30 CFR Parts 18, 75]

ILLUMINATION IN UNDERGROUND COAL MINES AND ELECTRIC FACE EQUIPMENT

Notice of Proposed Rule Making

Notice is hereby given that pursuant to the authority vested in the Secretary under section 101 of the Federal Coal Mine Health and Safety Act of 1969 (Public Law 91-173), and in accordance with section 317(c) of the Act which requires the Secretary to promulgate proposed standards for the illumination of working places in underground coal mines, it is proposed that Part 75, Subchapter O of Chapter I, Title 30, Code of Federal Regulations be amended by adding §§ 75.1719 through 75.1719-6, as set forth below, which prescribe the illumination to be provided in the working places of underground coal mines. It is further proposed that Part 18, Subchapter D of Chapter I, Title 30, Code of Federal Regulations (Bureau of Mines Schedule 30) be amended by adding §§ 18.73-1, 18.46-1, and 18.46-2, as set forth below, which prescribe the reflection efficiency of the surfaces on approved permissible electric face equipment and restrict the visual impedance and pulsation frequencies of lighting devices installed on such equipment.

Interested persons may submit written comments, suggestions, or objections to the Director, Bureau of Mines, Washington, D.C. 20240, no later than 45 days following publication of this notice in the FEDERAL REGISTER.

FRED J. RUSSELL,

Acting Secretary of the Interior.

DECEMBER 28, 1970.

Part 18, Subchapter D of Chapter I, Title 30, Code of Federal Regulations (Bureau of Mines Schedule 30) would be amended by adding the following:

§ 18.73-1 Reflection efficiency of permissible face equipment.

The clean surfaces of all permissible electric driven face equipment shall have a reflection efficiency of not less than 0.55.

§ 18.46-1 Visual impedance; cut-off angles of lighting devices; requirements.

Lighting devices installed on electric driven face equipment which are used to illuminate working places shall have maximum cut-off angles of 85° from the nadir. In addition, where miners are required to move forward of any such lighting device, such devices shall be equipped with louvers or dapping devices which provide a cut-off of 5° down from the horizontal.

§ 18.46-2 Pulsation of light sources.

Lighting devices installed on electric driven face equipment which are used to illuminate working places shall not employ light sources which pulsate at frequencies between 5 and 100 Hz.

Part 75, Subchapter O of Chapter I, Title 30, Code of Federal Regulations would be amended by adding the following:

§ 75.1719 Illumination in working places.

(Shortest Paragraphs)

On or before December 30, 1970, the Secretary shall propose the standards under which all working places in a mine shall be illuminated by permissible lighting within 18 months after the promulgation of such standards, or in persons are working in such places.

§ 75.1719-1 Illumination standard.

(a) On and after September 30, 1972, each operator of an underground coal mine shall illuminate each working place in the mine with permissible lighting while miners are working in such places.

(b) The level of illumination in all working places shall be no less than 5 ft.-c. (foot-candles) and no more than 110 ft.-c. (foot-candles) when measured on the work surfaces (face, roof, rib, floor, and equipment surfaces) of the working place.

(c) Except as provided in paragraphs (d) and (e) of this section, the area in each working place required to be illuminated shall be the area within which equipment is employed during the cutting, mining, and loading of coal. The area to be illuminated shall be determined by measuring the distance in the room, entry, or crosscut between the face and the outer end of the machine furthest from the face at the time the level of illumination is measured.

(d) The area in each longwall working place required to be illuminated shall include the area from the face to the gob-side of the longwall roof support system, and the work areas occupied by the headpiece and tailpiece operator regardless of their location.

(e) The area in each working place where roof bolters are employed which is required to be illuminated shall be:

(1) An area on the roof which is centered about the location where the hole is to be drilled and which has a diameter equal to the height of the entry, room, or crosscut in which the roof bolter is working.

C
O
P
YC
O
P
Y

FOR IMMEDIATE RELEASE

DECEMBER 23, 1970

Office of the White House Press Secretary

THE WHITE HOUSE

STATEMENT BY THE PRESIDENT

I have today directed the establishment of a Federal permit program covering facilities which discharge waste into navigable waters and their tributaries in the United States. This new program will enhance the ability of the Federal Government to enforce water quality standards and provide a major strengthening of our efforts to clean up our nation's water.

Last February I transmitted to the Congress a comprehensive water pollution program, as part of my thirty-seven point program designed to protect our environment. My proposals included legislative measures to make the establishment and enforcement of water quality standards more effective and expeditious. Unfortunately, no Congressional action has been taken on my water pollution control proposals. I will continue to seek enactment of these proposals during the next session of the Congress.

In the meantime, I am directing the immediate initiation of a new, coordinated program of water quality enforcement under the Refuse Act of 1899, an Act whose potential for water pollution control has only recently been recognized.

This law, which we have relied upon for many of our water pollution enforcement actions to date, prohibits the discharge of refuse matter, except that flowing from streets and sewers, into navigable waters or their tributaries without a permit from the Army Corps of Engineers. Through a more activist utilization of this Act, we will be able to require industries to submit to State authorities and the Federal Government data concerning effluents which they plan to discharge into navigable waters. For those firms that are complying with water quality standards, the issuance of a permit, agreed upon by the Federal Government and the States, will assure all parties that standards are being met. To deal with those who are disregarding our pollution control laws, a swift and comprehensive enforcement mechanism is provided by this authority.

The most effective use of the Refuse Act will require close coordination between the Corps of Engineers and the Environment Protection Agency as well as other Federal and State authorities. The Executive Order I am signing today will ensure that such coordination is provided and that the program is initiated promptly. As this Order makes clear, the Environmental Protection Agency will make the necessary determinations on behalf of the Federal Government for all water quality aspects of this program.

The Refuse Act permit program makes maximum use of all existing provisions of law relating to water quality. It will apply to discharges both from new installations and from existing facilities. Implementation of the program will begin when proposed

MORE

OVER

regulations, soon to be issued for comment, are promulgated. Permits for new discharges will be required immediately. For existing discharges, the deadline for filing applications will be July 1, 1971, to provide the States an opportunity to mobilize for this program. In the meantime, violators of water quality standards will not be exempt from prosecution under the Refuse Act.

I wish to make clear that although the Refuse Act generally does not apply to municipal discharges, we will continue to vigorously employ other authorities for dealing with violations of water quality standards by municipalities. The Environmental Protection Agency recently put three large cities on notice that it will take legal action under the Federal Water Pollution Control Act if they do not take steps to correct water quality violations.

Implementation of a program of this magnitude will not be easy. It involves a number of Federal agencies, 50 States, and many thousands of industries. But we cannot afford to wait. We must move ahead to clean up our waters. I invite the help and cooperation of the States, private industry, and all citizens in making the Refuse Act permit program an effective tool to promote our water quality objectives.

/ / /

IMMEDIATE RELEASE

DECEMBER 23, 1970

Office of the White House Press Secretary

THE WHITE HOUSEEXECUTIVE ORDERADMINISTRATION OF REFUSE ACT PERMIT PROGRAM

By virtue of the authority vested in me as President of the United States, and in furtherance of the purposes and policies of section 13 of the Act of March 3, 1899, c. 425, 30 Stat. 1152 (33 U.S.C. 407), the Federal Water Pollution Control Act, as amended (33 U.S.C. 1151 et. seq.), the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-666c), and the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347), it is hereby ordered as follows:

Section 1. Refuse Act permit program. The executive branch of the Federal Government shall implement a permit program under the aforesaid section 13 of the Act of March 3, 1899 (hereinafter referred to as "the Act") to regulate the discharge of pollutants and other refuse matter into the navigable waters of the United States or their tributaries and the placing of such matter upon their banks.

Sec. 2. Responsibilities of Federal agencies. (a) (1) The Secretary shall, after consultation with the Administrator respecting water quality matters, issue and amend, as appropriate, regulations, procedures, and instructions for receiving, processing, and evaluating applications for permits pursuant to the authority of the Act.

(2) The Secretary shall be responsible for granting, denying, conditioning, revoking, or suspending Refuse Act permits. In so doing:

(A) He shall accept findings, determinations, and interpretations which the Administrator shall make respecting applicable water quality standards and compliance with those standards in particular circumstances, including findings, determinations, and interpretations arising from the Administrator's review of State or interstate agency water quality certifications under section 21(b) of the Federal Water Pollution Control Act (84 Stat. 108). A permit shall be denied where the certification prescribed by section 21(b) of the Federal Water Pollution Control Act has been denied, or where issuance would be inconsistent with any finding, determination, or interpretation of the Administrator pertaining to applicable water quality standards and considerations.

(B) In addition, he shall consider factors, other than water quality, which are prescribed by or may be lawfully considered under the Act or other pertinent laws.

more

(OVER)

(3) The Secretary shall consult with the Secretary of the Interior, with the Secretary of Commerce, with the Administrator, and with the head of the agency exercising administration over the wildlife resources of any affected State, regarding effects on fish and wildlife which are not reflected in water quality considerations, where the discharge for which a permit is sought impounds, diverts, deepens the channel, or otherwise controls or similarly modifies the stream or body of water into which the discharge is made.

(4) Where appropriate for a particular permit application, the Secretary shall perform such consultations respecting environmental amenities and values, other than those specifically referred to in paragraphs (2) and (3) above, as may be required by the National Environmental Policy Act of 1969.

(b) The Attorney General shall conduct the legal proceedings necessary to enforce the Act and permits issued pursuant to it.

Sec. 3. Coordination by Council on Environmental Quality.

(a) The Council on Environmental Quality shall coordinate the regulations, policies, and procedures of Federal agencies with respect to the Refuse Act permit program.

(b) The Council on Environmental Quality, after consultation with the Secretary, the Administrator, the Secretary of the Interior, the Secretary of Commerce, the Secretary of Agriculture, and the Attorney General, shall from time to time or as directed by the President advise the President respecting the implementation of the Refuse Act permit program, including recommendations regarding any measures which should be taken to improve its administration.

Sec. 4. Definitions. As used in this order, the word "Secretary" means the Secretary of the Army, and the word "Administrator" means the Administrator of the Environmental Protection Agency.

RICHARD NIXON

THE WHITE HOUSE,

December 23, 1970.

C
O
P
YC
O
P
YEFFLUENT REQUIREMENTS FOR INDUSTRIAL WASTESA. INTRODUCTION

The price of progress in the Age of Affluence is an alarming acceleration in the pollution of the nation's streams, atmosphere, and landscape. Of major concern is the rapid deterioration of our streams and waterways, which jeopardizes the nation's water supply, portends the imminent extinction of aquatic life, and leads to the rapid deterioration of natural beauty.

Prime contributors of waterborne wastes are the 300,000 water-using factories in the United States, which discharge three to four times as much oxygen-demanding wastes as all the sewered population of the United States.¹ Moreover, the output of industrial wastes is growing several times faster than the volume of sanitary sewage. Although there is no detailed inventory of industrial wastes, a recent compilation indicates that over 80 percent of the volume discharged to water comes from four major industry groups — paper, chemicals, petroleum, and steel.

The need for regulatory standards and requirements has been emphasized by President Nixon, in his "Message on the Environment,":

"I propose that State-Federal Water Quality Standards be amended to impose precise effluent requirements on all industrial and municipal sources."²

Provisions for the establishment of effluent requirements have been included in the Department of the Interior's legislative proposals and a proposed policy on the FWQA approach to establishment of effluent standards has been drafted. Objective of the present procurement is to define the technical procedures for the establishment of effluent requirements for industrial sources based on the

¹ Powers, T. J., "National Industrial Waste Assessment," 1967.

² Nixon, R. M., "The President's Message on the Environment," February 10, 1970.

philosophy of the FWQA policy and utilizing the best available technical information and engineering judgement.

8. STATEMENT OF THE PROBLEM

State-Federal water quality standards established under the Federal Water Pollution Control Act generally require that all significant waste discharges receive the "best practicable" treatment. For municipal wastes this has been interpreted as a minimum of secondary treatment. Interpretation of this requirement is more difficult for industrial wastes because of the wide diversity of wastes; most states provided in their standards that "industrial wastes must receive at least the equivalent of secondary treatment." It is expected that when legislation is enacted imposing effluent requirements, the States will have the primary responsibility for establishing them. Without additional knowledge of industrial wastes, the states will have a difficult, if not impossible, task of establishing requirements that are not any more ambiguous than the present treatment requirement.

For effluent standards to have meaning and be realistic control devices, the following must be satisfied:

1. Must be quantifiable - effluent requirements must be expressed in terms of water quality parameters measurable by available analytical techniques. They will require identifying permissible quantities of specific contaminants, depending upon the technology level of an industry.
2. Must be enforceable - effluent standards must specifically identify treatment requirements in terms sufficient for technical understanding and engineering and design. Effluent requirements must be maximum limits that are not to be exceeded. Comprehensive monitoring and rapid detection are basic to effective enforcement programs.

3. Must be technically reasonable - generally speaking, degrees of industrial wastewater treatment are as dependent on economic factors as on technological capabilities. Therefore, the same across-the-board treatment requirements for all industries are not reasonable. Different industries and different plants within an industry require different types of effluent treatment processes. The degree of difficulty of treatment and in-plant control also varies among industries and plants. Therefore, an effluent standards program must take into account the level and type of treatment and control a particular industry is capable of providing within current day technology.

The Federal Water Quality Administration has recognized the magnitude and complexity of the industrial waste problem and has undertaken an Industrial Waste Studies Program. The FWQA recognizes that it must take the lead and provide to the States technically sound information for establishing effluent requirements.

C. APPROACH TO SOLVING THE PROBLEM

Effluent standards must be based upon definable standard raw waste loads (SRWL) related to an industrial technology level and upon a base level of treatment for a specific industrial process. To be equitable, and to match effluent requirements to receiving water quality standards, it will also be necessary to establish the best level of the treatment that is attainable with current day technology so that a range of effluent requirements can be defined.

Effluent requirements will be developed separately for each industrial category based on the principle of best demonstrated treatment. Within an industrial category, all discharges will be required to meet a defined "base level of treatment" (BLT), which would be stated in terms of pollutants produced with units of production (or unit of raw material if this measure is commonly used by the industry to determine water use); for example: lbs. of suspended solids/ton of steel. However, in many parts of the country further effluent restrictions will have to

be imposed on a discharger when a better quality of effluent is required to meet water quality standards or other receiving water requirements. These restrictions should be imposed on a case-by-case basis.

As a guideline, the "best available treatment" (BAT) must be defined as the best treatment (or effluent) that can be achieved through proven technology. The acceptable range of effluent requirements will thus be defined by the base level of treatment and the best available treatment. Adequate definition of the base level of treatment and the best available treatment, will require a basic knowledge of the characteristics of the pertinent industry and the character of the waste, the capabilities of existing treatment methods and in-plant control practices as well as those that have potential for use in the future, and the effects of different levels of significant pollutants on receiving water quality.

An initial step in determining the levels of treatment is to characterize the industry's waste. Since there is a wide variation in waste characteristics, even within a single industry, a number of steps must be taken to minimize the effect of these variations. First, the industry will be studied on a manufacturing process basis rather than on a plant basis; this provides flexibility in dealing with a wide variety of plants and effluents. Second, the waste characteristics will be defined for the typical manufacturing processes, which would be most representative of actual manufacturing operations. One of the greatest difficulties in selecting a typical process will be in the determination of the level of operation and of pollutant generation that represents an efficient "standard." Third, some manufacturing processes (and facilities) will be evaluated in two separate categories -- future and existing. Future processes are those which, since they have not been constructed, can be designed to incorporate the best in-plant pollution control practices. Existing processes are those in-place

where modification for pollution control would be more difficult, both technically and economically. This provides a mechanism for increasing pollution abatement as new plants are built without placing an unrealistic requirement on the existing plants; it also prevents unrealistically low requirements for new plants which would otherwise be grouped with less efficient existing plants.

Whereas much of this information may now be available for some industrial categories in most cases the data must be collected and summarized. In order to provide adequate reliable information for the establishment of effluent requirements a series of industrial waste studies must be undertaken. Specific tasks are defined in the "Statement of Work."

STATEMENT OF WORK

To accomplish the previously outlined objectives, it will be necessary to break the project into several steps for mutual understanding.

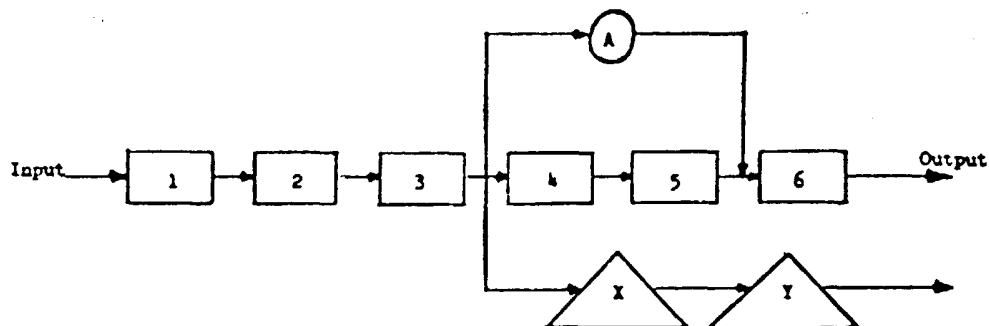
A. DEFINE STANDARD MANUFACTURING PROCESSES

The purpose of studying industries on a manufacturing process basis is to allow for diversity of processes between plants so that effluent requirements do not have to be established for a variety of plant operations, which vary only in a subprocess. Therefore, a manufacturing process is defined as a single operation where there are alternative methods which would result in a significantly different SRWL or a series of operations, none of which is normally not used in the series or for which an alternative operation cannot be interjected into the series. In Figure 1, a manufacturing plant layout is shown involving six operations. However, another plant making a similar product has substituted an alternative operation (A) for operations 4 and 5.

A third plant uses two other operations (x and y) in place of operations 4, 5 and 6. By the definition of a manufacturing process — operations 1, 2 and 3 are a process; 4 and 5, 6, A and x and y are separate processes. If, however, the SRWL's (Standard Raw Waste Loads) of 4 and 5 and of A are basically the same, then they could be defined as a single process. Hence, for the three different plants that could produce a similar product, the method of computing the SRWL for each plant is shown in Figure 1. In some industrial categories, the industry has already defined standard manufacturing processes; these can be used tempered with an element of judgement reflecting the intent of this study. A preliminary step in the characterization of an industry's waste will be to define each process to be evaluated. A flow chart of standard manufacturing processes with key data will be prepared. (The use of the term process here

should not be confused with unit operations -- as defined here, a process may be a unit operation, a series of unit operations, or an entire product line.)

Figure 1



$$I. \text{ SRWL} = \text{SRWL}_{(1-3)} + \text{SRWL}_{(4-5)} + \text{SRWL}_{(6)}$$

$$II. \text{ SRWL} = \text{SRWL}_{(1-3)} + \text{SRWL}_{(A)} + \text{SRWL}_{(6)}$$

$$III. \text{ SRWL} = \text{SRWL}_{(1-3)} + \text{SRWL}_{(x+y)}$$

There will be variations in the SRWL's of a defined manufacturing process between plants because of minor modifications, quality of raw materials, etc., so that it will be necessary to characterize the waste of a "typical" manufacturing process. If the variations in some processes are so significant as to make it impractical to define a typical process, the SRWL would have to be defined as a range of values with a description of factors affecting variability.

It is recognized that physical plant layout may in some industries require combining operations that are geographically located together. It is also recognized that available data obtained from actual field sampling may include several processes in the analyses. Therefore, in certain industries, geography may play an important role in definition of a typical process.

In defining the standard process, the contractor will assess the comprehensiveness, validity and availability of data to define pollutional loads. Using this

information, prepare a description of processes for the industrial classification and comment on the validity of using SIC numbers. If SIC is not meaningful in the industry, the rationale for a new system should be provided.

Depending upon the industry, define the manufacturing process by some measurable means such as raw materials, intermediates, products, etc. The defined process may be combinations of unit processes that are interrelated to the point that meaningful pollutional loads and/or characteristics cannot be defined smaller. This may in some instances be a complete plant. The effects of operating variables on the pollutional loads will be defined when applicable.

A typical manufacturing process can be further classified according to two categories: future and existing. Whereas the Cost of Clean Waters industrial waste profiles included the third category of "old" processes, this has not been included, since, if the process is not economically amenable to water pollution control because of its age or it cannot be made to meet the standards required of existing (modern) processes, then this economic and environmental reality may dictate its replacement. Included in the economic evaluation of future processes must be the impact of pollution control as a result of the application of SRWL considerations.

In determining what constitutes a process and what is the typical process, process controls for water pollution abatement reasons should not be included.

The SRWL should be measured for the process including the effect of normal process control but excluding in-plant measures applied for pollution purposes. The contractor must make recommendations regarding definition of process controls. As a general guideline a pollution control process is one where the sole purpose of the process unit is compliance with pretreatment or effluent treatment requirements, but recovery and utilization of product or by-product losses (if any) is incidental and may reasonably be shown to be uneconomical.

No credit for controls shall be reflected in the SRWL for control processes where:

- a) The primary purpose of the process unit is economical recovery and utilization of product or by-product losses;
- b) the primary purpose of the process unit is the minimization of the hazards or costs of wastewater collection; and
- c) the primary purpose of the process unit is minimization of pollution control costs by raw material or processing agent substitution, process modification or recovery and utilization of product and/or by-product losses.

The contractor will be required to make an engineering judgement and to document this decision where a control falls between the guidelines set above.

Thus, an industry will be given credit for in-plant controls initiated for water pollution abatement when determining effluent requirements. However, process control does not include basic good-housekeeping practices. Where there is any dispute as to what constitutes a process control, the FWQA will decide.

B. DEFINITION OF STANDARD RAW WASTE LOAD (SRWL)

1. Determine Availability of Data and Evaluate Their Validity

The contractor shall identify and enumerate the sources of data from which the SRWL will be determined. Consideration should be given to using the experience and input from regulatory agencies, industrial associations, academic societies and institutions, equipment suppliers, and other consultants, in addition to the contractor's own experience and that which is presented in the literature.

The validity of the data should be evaluated and defined in terms of: the qualifications of the author or source; the timeliness or currency of the values; the number and frequency of data points and the sampling and analytical procedures employed; the assumptions, handling, analysis, and interpretation of the data; and the coincident availability of throughput, operation, process definition and other pertinent production information.

2. SRWL Units of Expression

The contractor should define and enumerate the most significant and all normally added pollutants produced from both existing and future processes. Units of expression should be recommended and defined in unit terms of either raw material consumption or production rates consistent with the basis for defining the manufacturing process. Where practical, only the incremental waste load added in the particular process to raw or process (recycled or reused) water will be presented to minimize effects of influent water quality.

3. Define SRWL

Using the data available and the recommended units of expression, the contractor shall calculate and project the unit or process raw waste load. Recognition and allowance must also be made for auxiliary or supporting activities and services which are necessary for the existing and future processes to operate. These include proportionate wastes contributions from cooling towers; on-site steam and power generation; process water pretreatment; determination and maintenance of product quality control; raw material or finished product transfer and storage facilities; etc. The contractor shall discuss and define the effectiveness of applicable in-plant process control techniques which are or can be employed solely for pollution abatement. He should develop guidelines for the selection of those control techniques which are routinely employed in the industry solely for pollution

abatement, so that these may be properly accounted for in development of SRWL for the selected processes. These guidelines should be presented to FWQA for review and comment prior to the completion of the definition of SRWL's.

Where possible, SRWL's should be presented as a single value each for the existing and for the future processes. If insufficient data or widely varying process waste loads are encountered, the contractor shall present what he believes are valid ranges of values for both classifications of processes, along with a description of factors affecting the variations.

As noted in the Introduction, judgement must be applied in the selection of levels of operation and of pollutant generation. Prior to characterizing the SRWL for a typical process, a decision must be made to the time period for evaluation of levels of operation. Critical to this decision are the necessity of replication of the SRWL and effective enforcement of the effluent requirement.

4. Qualifications to and Confirmation of SRWL

The contractor shall discuss and quantify, where practical, the influences of housekeeping, process operating variables (temperature, pressure, rate of throughput with respect to "design" rate) scale of unit size, product purity requirements, etc., on the SRWL. The influences of preceding and subsequent processes; sources and purification of raw materials, finishing and improvement of product quality should also be presented.

The contractor shall, where possible, compare the plant effluent raw waste load computed by summing the process SRWL against the actual plant raw waste effluent loads for several plants incorporating a significant number and variety of typical and new processes.

5. Definition and Delineation of Additional Needs

Based on the findings and analysis of his investigations, the contractor shall define and recommend a program which can be used to permit field confirmation of the SRWL data developed in Step B-3 or to develop additional data adequate to complete the definition intended in the scope of this portion of the study. The recommended program will serve as a basis for the development of additional contracts to complete, extend and maintain current the SRWL data for this industry. It is expected that the timing constraints of the project covered by this work statement will not permit acquisition of specific new analytical data for the purpose of defining SRWL's.

C. EVALUATE PROVEN AND APPLICABLE WASTEWATER TREATMENT AND CONTROL METHODS AS A BASIS FOR DETERMINING BASE LEVEL OF TREATMENT (BLT) AND REST AVAILABLE TREATMENT (BAT)

1. Determine Availability of Data and Evaluate Their Validity

The contractor shall identify and enumerate the sources of data from which the BLT and BAT will be determined. Consideration should be given to using the experience and input from regulatory agencies, industrial associations, academic societies and institutions, equipment suppliers, and other consultants, in addition to the contractor's own experience and that which is presented in the literature.

The validity of the data should be evaluated and defined in terms of: the qualifications of the author or source; the timeliness or currency of the values; the number and frequency of data points and the sampling and analytical procedures employed; the assumptions, handling, analysis, and interpretation of the data; and the coincident availability of throughput, operating conditions, and other pertinent performance information.

2. Discussion of Variables Affecting Selection and Performance of Treatment Processes

The contractor shall present and discuss the influence of: industrial practice with regard to treatment of effluents from single processes vis-a-vis combinations of processes; the types and numbers of processes usually combined; in-plant pollution or process control alternatives; specific individual and combinations of pollutants normally expected in the effluents from existing and future processes; climate and location; available land area; and receiving stream quality, flow, and use classification on the selection and performance of treatment processes. A comparison of alternative treatment techniques as to capabilities, performance, advantages and disadvantages, by-product disposal, etc., should be prepared. Total impact on the receiving environment must be included in the evaluation.

The contractor shall also present actual plant performance data for the industry under evaluation. All applicable types of treatment processes should be included. Production processes served, raw waste quality and characteristics, design loadings and criteria, and effluent quality should be tabulated along with any available production and process information. Any information on types and quantities of by-products and their disposition should also be included. Full-scale, as well as bench and pilot-scale data, are to be included. Data relating costs of treatment and control facilities to level of performance should be accumulated and evaluated, as they affect the selection of base level of treatment. The purpose of this information is to serve as a basis for evaluation of what constitutes ELT and BAT and why.

3. Determination of BLT and BAT

Using the information generated above, the contractor shall quantify the degree of removal attainable through in-plant process and/or waste control techniques and effluent treatment as related to raw wastewater characteristics and processes. Basic in-plant process control and effluent treatment effectiveness should be combined in a manner that can be related to the SRWL, and the parameters which define it, for the processes(es) selected. The contractor shall select and recommend, for final definition by FWQA, the Base Level of Treatment (BLT) applicable to a process, or to a commonly used or logical combination of processes. As a guideline, the BLT selected for a given case should be one where that degree of treatment and control has been or is being reliably obtained in a number (3 or more) of the better facilities within the particular industrial category. Where present treatment within a category is essentially non-existent or inadequate by reason of improper application of technology, BLT is that degree of treatment or pollution control which can be reasonably achieved with available technology, using experience in related applications and normal engineering practices as applied by well-qualified engineers. The base level of treatment will be stated in terms of units of pollutants per units of production (or raw material). The base level of treatment is to be limited to significant pollutants in the SRWL, which are of value in determining the general quality of the effluent. Where combined municipal-industrial wastewater treatment is the prevailing or very common control or disposal procedure, the required level of pretreatment shall be employed to define a range of BLT for appropriate industry or process for combined treatment.

The base level of treatment may be considered to be a general effluent requirement. However, where a better effluent is required to meet receiving

water quality standards, a responsible regulatory agency can, using the SRWL of the plant and known treatment efficiencies, require a better quality effluent. The contractor shall select and recommend, for final determination by FWQA, the best available treatment (BAT) for the industrial category. It is recognized that the level of control attainable on the effluent from one plant is not necessarily translatable directly to a similar plant. However, the general effectiveness of a treatment process can be used as a guideline to aid in establishing effluent requirements for a given process or plant.

The best available treatment will be the highest degree of treatment and control that: (1) has been achieved in actual practice and is an outstanding example within the particular industrial category; or (2) is capable of being designed by well-qualified engineers based upon pilot plant or other reliable design data. In most cases, the best available treatment will be determined to be the highest degree of treatment found feasible as a result of the treatment evaluation study in Step C-3. The best available treatment will be stated in the same units as the base level of treatment but it will include all pollutants specified in the SRWL's for the industry.

The essential difference other than degrees of treatment between the base level of treatment and the best available treatment is cost. The base level of treatment is assumed by definition, as economically feasible for all units within an industrial category. The best available treatment is based on technical feasibility without consideration to current or past feasibility of cost.

4. Definition and Delineation of Additional Needs

Based on the findings and analysis of his investigations, the contractor shall define and recommend a program which can be used to permit field confirmation

of the BLT and BAT data developed in Step C-3 or to develop additional data adequate to complete the definition intended in the scope of this portion of the study. The recommended program will serve as a basis for the development of additional contracts to complete, extend and maintain current the BLT and BAT data for this industry. It is expected that the timing constraints of the project covered by this work statement will not permit acquisition of specific new analytical or pilot-plant data for the purpose of defining BLT's or BAT's.

D. IMPLEMENTATION GUIDELINES

Local, State and Federal agencies will have to know how the effluent requirements were developed by the contractor so that the agency can repeat the process and will have to know how to apply the effluent requirements in evaluating an industrial facilities effluent. The contractor shall provide implementation guidelines. These guidelines shall develop a definitive basis for the following:

1. Process
2. SRWL
3. BLT
4. BAT

A narrative shall be prepared explaining how the above shall be used in developing effluent requirements and the constraints on the use of this information. Prepare effluent quality criteria if possible for typical industries and graphically present how the information is to be used. These guidelines should include the basic information required by a regulatory agency and the procedure for evaluating this information for a proposed effluent stream.

Develop a program, if necessary, to further evaluate and confirm the calculated versus actual data for SRWL, BLT and BAT to substantiate the validity of the data being used to establish effluent standards. Included shall be an outline of where

further research and development is needed to improve the wastewater treatment and control technology within the industry.

Develop manpower planning criteria for each of the wastewater treatment processes evaluated for which such criteria has not already been prepared. Information will be provided to contractors on the criteria now developed.

The contractor shall prepare a report on the industry to include the information requested in A through D of this statement of work with background narrative, plus general narrative information on the industry necessary for a comprehensive evaluation of the industry.

E. PROJECT EXECUTION

The project shall be executed in a manner that will permit maximum knowledge of the constraints and progress. To accomplish the objective, review meetings will be held at the completion of each task. At the review meeting, the contractor shall present the information obtained, initial conclusion reached and outline the execution procedure for the next task. The contractor is required to submit a milestone diagram indicating the tentative completion dates for tasks.

The project will have two output dates - the first is an interim output where data necessary for FWQA to develop effluent requirements will be required; and the second is the final report.