



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038

Nuclear Department

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

OCT 15 1991

NLR-E91231

Bureau of Discharge Prevention  
New Jersey Department of Environmental  
Protection and Energy  
401 East State Street  
CN027  
Trenton, New Jersey 08625-0027

Attention: Discharge Confirmation Report

Dear Sirs:

DISCHARGE OF CHLORINATED WATER FROM PUBLIC SERVICE ELECTRIC  
AND GAS (PSE&G) HOPE CREEK GENERATING STATION  
(CASE #91-9-16-1058-24) - 30 DAY CONFIRMATION REPORT

As per the requirements of NJAC 7:1E-5.8, PSE&G has prepared a report (copy attached) confirming the discharge of 400 gallons of 0.23 ppm (originally reported as 0.40 ppm) chlorinated stormwater from a Sodium Hypochlorite (15%) storage tank secondary containment to the ground, which occurred at Hope Creek Generating Station on September 16, 1991. The discharge occurred entirely within PSE&G property, and no injuries resulted.

As the quantity of chlorine did not exceed a "Reportable Quantity" (RQ) of 1 pound under 40 CFR 302.4, (400 gallons x 8.34 gallons/pound x 0.000023% = 0.00077 lbs.), no notification of the release was reported to any agency other than the New Jersey Department of Environmental Protection and Energy (NJDEPE) and the Nuclear Regulatory Commission (NRC), as required under 10CFR50.72, Significant Events.

PSE&G, in making the notification, believes that it acted in accordance with the intent of NJAC 7:1E, Subchapter 5, which requires all major facilities to notify the NJDEPE of discharges of petroleum and other potentially hazardous substances in any concentration. However, field analysis of the water conducted immediately after the discharge, and confirmatory laboratory analysis shortly thereafter, indicated residual chlorine concentrations at levels consistent with potable water.

The Energy People

9110220252 911015  
PDR ADOCK 05000354  
PDR

91-2168 (87 MM) 12-91

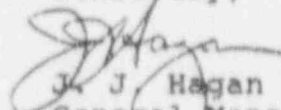
OCT 15 1991

In retrospect, PSE&G believes that the discharge of the stormwater, initiated by maintenance personnel in the course of routine activities, was an error which resulted from an incomplete understanding of Hope Creek procedures and which released nothing more than water chlorinated at levels consistent with drinking water quality to the ground. Based on this subsequent analysis, PSE&G was not obligated to notify the NJDEPE since the event was not a discharge of a hazardous substance.

As a result of this discharge, PSE&G has conducted a follow-up investigation of the incident, and has implemented steps to educate all personnel performing this maintenance task and provide more guidance at secondary containment and tank truck unloading areas to prevent the reoccurrence of such events.

Should you have any questions concerning the information contained herein, or require additional information, please contact Mr. Thomas Costantino of Licensing and Regulation at (609) 339-1459.

Sincerely,



J. J. Hagan  
General Manager -  
Hope Creek Operations

Attachment

C New Jersey Department of Environmental Protection  
and Energy  
Division of Environmental Quality  
Bureau of Communications and Support Services  
CN 411  
Trenton, New Jersey 08625

New Jersey Department of Environmental Protection  
and Energy  
Southern Bureau of Regional Enforcement  
20 E. Clementon Road  
Gibbsboro, New Jersey 08026  
Attention: Mr. William Dunphee

United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C., 20555

Salem County Department of Health  
98 Market Street  
Salem, New Jersey 08079  
Attention: Mr. James Warner

ATTACHMENT 1

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
RELATED TO DISCHARGE OF CHLORINATED STORMWATER FROM  
HOPE CREEK GENERATING STATION - CASE #91-9-16-1058-24

INDIVIDUAL REPORTING DISCHARGE:

Engineer - Environmental Licensing  
Public Service Electric and Gas  
Nuclear Department  
P. O. Box 236, M/C N21  
Hancocks Bridge, New Jersey 08036  
(609) 339-1459

INDIVIDUAL SUBMITTING CONFIRMATION REPORT:

General Manager - Hope Creek Operations  
Public Service Electric and Gas  
Nuclear Department  
P. O. Box 236, M/C N21  
Hancocks Bridge, New Jersey 08036  
(609) 339-1229

FACILITY OWNER/OPERATOR:

Public Service Electric and Gas Co.  
P. O. Box 570-17G  
Newark, New Jersey 07101-0570

INDIVIDUAL(S) RESPONSIBLE FOR THE DISCHARGE:

General Manager - Hope Creek Operations  
Public Service Electric and Gas  
Nuclear Department  
P. O. Box 236 M/C H07  
Hancocks Bridge, New Jersey 08036

DISCHARGE SOURCE:

Hope Creek Service Water  
Sodium Hypochlorite (15%) Tank  
(Secondary Containment)

In the absence of a supervisor who normally oversees the drainage of stormwater from the service water sodium hypochlorite tank secondary containment, stormwater with a total residual chlorine concentration determined to be 0.23 ppm, was discharged from the secondary containment to the ground by maintenance personnel performing routine activities. Accepted practice is to check for residual chlorine in stormwater inside the tank secondary containment before discharge, and if residual chlorine is detected, the stormwater is discharged into the Service Water system for station use.

ATTACHMENT 1 (continued)

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
RELATED TO DISCHARGE OF CHLORINATED STORMWATER FROM  
HOPE CREEK GENERATING STATION - CASE #91-9-16-1058-24

DISCHARGE LOCATION:

Hope Creek Generating Station  
End of Buttonwood Road  
Block#: 26  
Lot#: 4  
Municipality: Hancocks Bridge  
County: Salem County  
Zip Code: 08036  
Tax #: 22-1212-800  
EPA ID#: NJD077070811  
(Map Enclosed - see Figures 1 and 2)

CHEMICAL DISCHARGED:

0.40 ppm Total Residual Chlorine  
in Stormwater (Reported)

0.23 ppm Total Residual Chlorine  
in Stormwater (Actual)

CAS Number: 7732-18-5  
(Per New Jersey Worker and Community Right To Know)

QUANTITY DISCHARGED: Approximately 400 gallons (1512 liters)

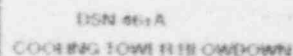
DATE/TIME DISCHARGE BEGAN: September 16, 1991 0800 Hours

DATE/TIME DISCHARGE ENDED: September 16, 0845 Hours

DATE/TIME DISCHARGE DISCOVERED: September 16, 0930 Hours

DATE/TIME DISCHARGE REPORTED: September 16, 1058 Hours  
To NJDEPE Hotline

- DISN 461A COOKING FLOW FEE OWDOWNE  
DISN 461C FLOWS DISCHARGE TO COOKING FLOW FEE OWDOWNE  
DISN 48C INDUSTRIAL WASTE THE ATTN IN  
DISN 481 B NON CONTACT COOKING WATER DISCHARGE  
DISN 48D STORMWATER DISCHARGE  
DISN 48WAB OIL/WATER FROM TANKS  
DISN 48T STORMWATER DISCHARGE  
DISN 48TB OIL/WATER FROM TANK  
DISN 48TE SEWAGE THE ATTN IN PLANT  
DISN 48TA STORMWATER DISCHARGE NORTH YARD DRAIN  
DISN 48SA STORMWATER DISCHARGE SOUTH YARD DRAIN  
DISN 48A PLUMB THE DITCH  
DISN 48B STORMWATER DISCHARGE



SECURITY  
FENCE

HOPE CREEK STATION

SALEM STATION

王 明 著 中国书店

1374-1375

SECOND SUN



DELAWARE RIVER

PSI 6G AH18 SC183 PSI A242

GENERAL SITE MAP

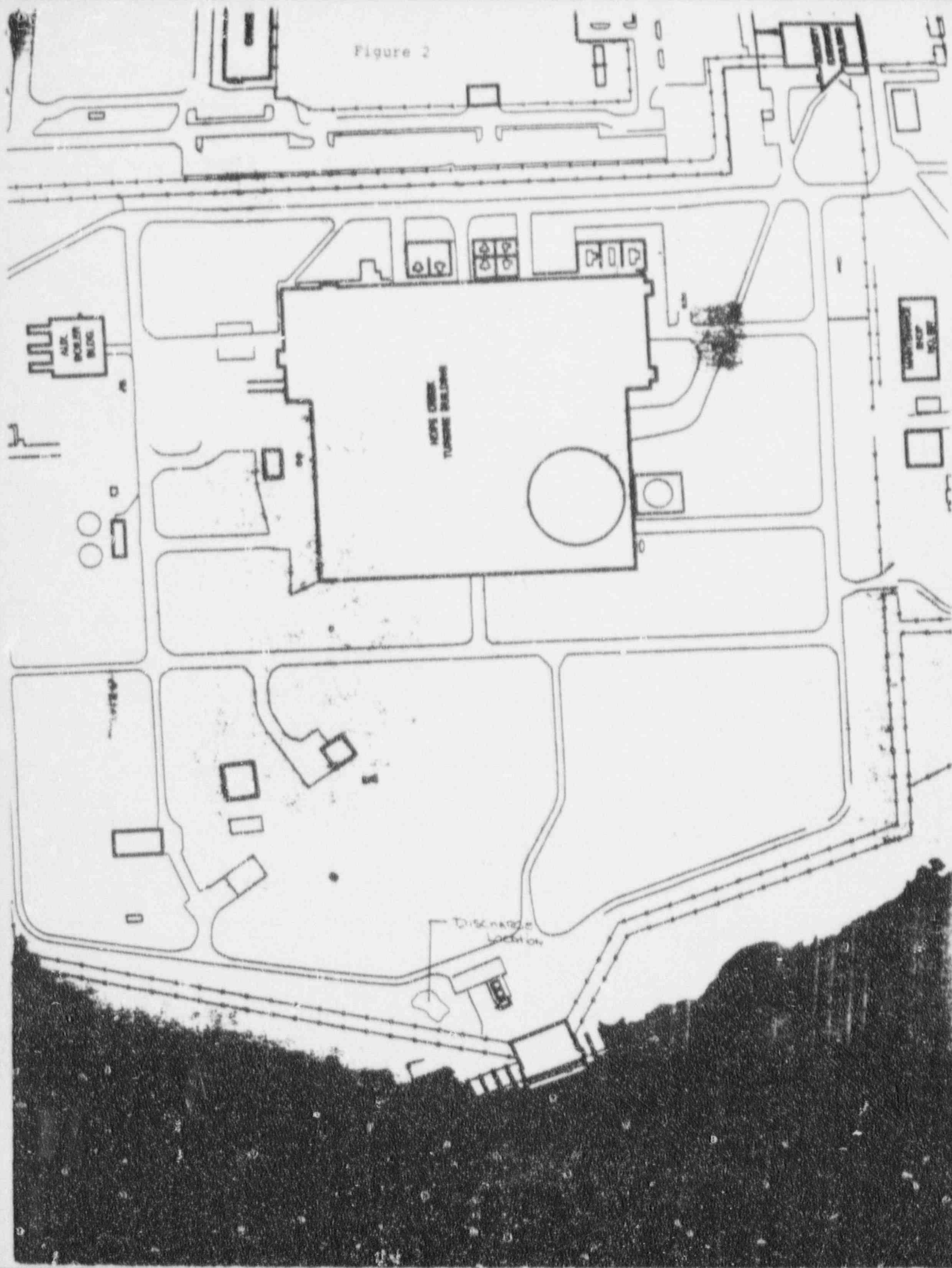
NJPDES OUTFALL IDENTIFICATION

ALSTOM e ITI TRAMIS SNC - PALERMO 2017 &amp; PALERMO 2022

SEPTEMBER 1991



Figure 2



ATTACHMENT 1 (continued)

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
RELATED TO DISCHARGE OF CHLORINATED STORMWATER FROM  
HOPE CREEK GENERATING STATION - CASE #91-9-16-1058-24

JUSTIFICATION FOR DELAY IN 15 MINUTE NOTIFICATION:

A 15 minute notification of the discharge was not made for a number of reasons. Those discharging the stormwater, during and after the event, had no reason to suspect that the water was chlorinated. There was no odor associated with the stormwater whatsoever. Secondly, the site is located in a remote location of Hope Creek Generating Station. After the station chemistry staff was notified of the discharge and tested for the presence of residual chlorine in the water, substantial time had passed. Once the presence of residual chlorine was identified, efforts to notify the Hotline were undertaken, however, the only telephone near the location is situated inside a building (the Service Water Intake) where pumps and equipment noise make discussion (required for notification) almost impossible. Therefore, notification was made from a less remote location, and 15 minute notification was not possible.

MEASURES TAKEN TO CONTAIN, CLEANUP AND REMOVE THE DISCHARGE:

The presence of residual chlorine in the stormwater discharged from the storage tank secondary containment was not known until 0930 hours, 1 1/2 hours after the discharge began. Those at the location had no knowledge of residual chlorine in the water. Consequently, by the time residual chlorine was discovered based on an analysis performed by Hach Kit at 0.40 ppm, the water had percolated through a surface layer of gravel onto the ground. Once this analysis confirmed the presence of chlorine, the discharge was reported to the NJDEPE. At the direction of the Bureau of Emergency Response, which requested PSE&G perform some form of initial remediation, on-site personnel were mobilized to report to the scene, remove the gravel and wet soil (a quantity of approximately 5 cubic yards) by front-end loader and place it on a vinyl liner. The quantity of soil removed and the depth of soil extraction was based on a visual determination of the extent of water percolation through the soil.

The soil was then exposed to the air until it dried out, and was then extracted for residual chlorine analysis. When the residual chlorine was no longer detected in the soil, it was placed back in its original location. Laboratory analysis later determined the actual concentration of residual chlorine in the stormwater at 0.23 ppm, not the reported 0.40 ppm.



ATTACHMENT 1 (continued)

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
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CORRECTIVE MEASURES:

Maintenance personnel in the course of routine maintenance activities, performed stormwater drainage duties in the absence of a supervisor and were apparently unaware of the generating station accepted practice of testing all accumulations of stormwater in secondary containments for contamination, prior to stormwater discharge. As a result, a number of steps were taken to insure that discharges of this type, and others of a more serious nature, are avoided.

First, the personnel involved were counseled as to the acceptable practice for secondary containment stormwater handling. Secondly, the Maintenance Department management reiterated the proper procedures for management of secondary containment and truck unloading pad stormwater disposition with all mechanics with maintenance duties. Lastly, temporary signs (which will be replaced with permanent signs in the future) were erected on all yard area tank secondary containments and truck unloading pad locations advising maintenance personnel not to drain these areas until they have been sampled by the station Chemistry Department.

INDIVIDUAL INVOLVED IN CONTAINMENT/CLEANUP:

Senior Nuclear Maintenance Supervisor  
Site Services Maintenance  
Public Service Electric and Gas  
Nuclear Department  
P. O. Box 236, M/C N34  
Hancocks Bridge, New Jersey 08038  
(609) 339-5041

TYPE, QUANTITY, LOCATION AND DATE OF SAMPLES:  
(Copies of Laboratory Data attached)

Sample 1

Water, 25 milliliters (ml.), from the ground at the site, 9/16/91, approximately 0930 hours (Hach Kit). Before containment/cleanup.  
Total Residual Chlorine concentration - 0.40 ppm

ATTACHMENT 1 (continued)

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
RELATED TO DISCHARGE OF CHLORINATED WATER FROM  
HOPE CREEK GENERATING STATION - CASE #91-9-16-1058-24

Sample 2

Water, 25ml., from the ground at the site, 9/16/91,  
approximately 0945 hours, more accurate test method. Before  
containment/cleanup.

Total Residual Chlorine concentration - 0.23 ppm.

Sample 3

Soil, 500g, from the discharge area, 9/17/91, for the continued  
presence of residual chlorine in the ground. After containment,  
during cleanup.

Total Residual Chlorine concentration - None Detected

Sample 4

Soil, 500g, from the discharge area, 9/17/91, for the continued  
presence of residual chlorine in the ground. After containment,  
during cleanup.

Total Residual Chlorine concentration - None Detected

Sample 5

Soil, 500g, from the soil pile removed from the discharge area,  
9/17/91, for the continued presence of residual chlorine in the  
soil pile, after cleanup.

Total Residual Chlorine concentration - None Detected

INDIVIDUAL CONDUCTING ANALYSIS:

Senior Chemistry Supervisor  
Radiation Protection/Chemistry Department  
Public Service Electric and Gas  
Hope Creek Generating Station  
P. O. Box 236, M/C N36  
Hancocks Bridge, New Jersey 08036  
(609) 339-2411



Public Service Electric and Gas Company P.O. Box 236 Hancock Bridge, New Jersey 08038

Hope Creek Generating Station

Hope Creek Generating Station  
Lab Results For Cl2 Analyses

10/14/91

Sample #	Description	Sample Date	Analysis Date	Results mg/L	MDL mg/L
OS-07695	EQ Dike	9/16/91	9/16/91	0.23	0.05
OS-07704	* Soil Sample	9/17/91	9/17/91	<0.05	0.05
OS-07705	* Soil Sample	9/17/91	9/17/91	<0.05	0.05
OS-07706	* Soil Sample	9/17/91	9/17/91	<0.05	0.05

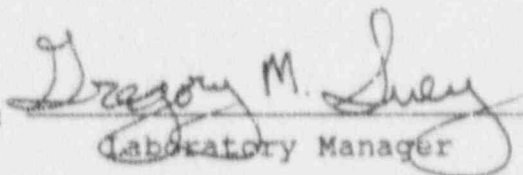
\* Analysis conducted on extract of soil sample. The extract was prepared based on 500 gms. of soil per 1000 mls demin. water.

Technician: J. Atkinson/R. Krusz

NJDEP Lab Cert # 17451

Method #408E

Reviewed by :

  
Laboratory Manager

ATTACHMENT 1 (continued)

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
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HOPE CREEK GENERATING STATION - CASE #91-9-16-1058-24

QUALITY ASSURANCE PROCEDURES:

Multiple (duplicate) sample analyses were conducted in an effort to ascertain total residual chlorine concentration, using blank samples to zero instrumentation. No additional quality assurance (QA) samples were analyzed. On-site laboratory procedures for residual chlorine analysis do not normally include provision for QA sample spikes and duplicates. This is due to the fact that QA samples do not accurately duplicate the water chemistry of the operations where testing is routinely required.

SAMPLE METHODOLOGY:

All samples taken were placed directly into new (previously unused) plastic bottles and taken directly to the station laboratory, NJDEPE certified to perform total residual chlorine analysis. No chain-of-custody procedures were utilized since those performing the sampling either analyzed the samples themselves or observed the sampling. Quality control used to verify sample results is consistent with those requirements cited at NJAC 7:18-4.7.11, and consistent with guidelines for routine on-site analysis of this parameter as provided by NJDEPE, Office of Quality Assurance inspectors. The analytical methodologies performed are as follows:

<u>Parameter</u>	<u>Test Methodology</u>
Total Residual Chlorine	Standard Methods for the Analysis of Water and Wastewater, 15th Ed. Method 408E.

RATIONALE FOR SAMPLING LOCATION:

All samples were taken in the area directly impacted by the stormwater discharge including samples from stormwater which had remained on the soil surface and had not percolated into the ground. Addition samples were taken from the soil removed from the ground and staged. One sample (sample 1) was used to determine the total residual chlorine in the discharged stormwater in the field. Another sample (sample 2) was used to confirm the field analysis at the on-site certified laboratory. Two samples (samples 3 and 4) were taken of the affected soil during cleanup, and one sample (sample 5) was obtained from the soil after cleanup.

ATTACHMENT 1 (continued)

DISCHARGE CONFIRMATION REPORT - SUPPLEMENTAL INFORMATION  
RELATED TO DISCHARGE OF CHLORINATED STORMWATER FROM  
HOPE CREEK GENERATING STATION - CASE #91-9-16-1058-24

FINANCIAL RESPONSIBILITY:

Financial responsibility is provided through Excess  
Liability Insurance. This insurance is through the  
following carrier:

Associated Electric and Gas Services, Inc.  
Harborside Financial Center  
700 Plaza Two  
Jersey City, New Jersey 07311-3944

Policy #: X0015A1A91  
Effective Date: 8/1/91



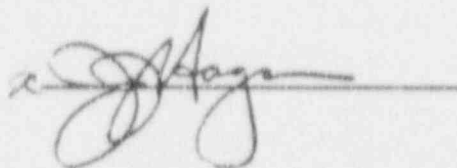
CERTIFICATION

State of New Jersey:

ss

County of Salem :

I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information.



Sworn and subscribed before me  
on this 15 day of October, 1991.

Shirley Houston  
Notary Public

SHIRLEY L. HUSTON  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires Dec. 23, 1993