Annex 5 Attempts and Lessons Learned

Annex 5-1 Implementation of provision of Executive Decree 07-299 and 07-300, September 17, 2007

الجمهورية الجزائرية الديمقراطية الشعبية

RÉPUBLIQUE ALGÉRIENNE DÉMOCRATIQUE ET POPULAIRE

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE ET DE L'ENVIRONNEMENT

Observatoire National de l'Environnement et du Développement Durable
O . N . E . D . D
DIRECTION GENERALE

المرصد الوطني للبيئة و التنمية المستدامة

Réf. : 360 /DG/ONEDD

Alger, le 06 DEC 2010

Messieurs les Directeurs de laboratoires régionaux
Mesdames et Messieurs les chefs de stations de surveillance.

Objet : A/S mise en œuvre des dispositions des décrets exécutifs 07-299 et 07-300 du 17 septembre 2007.
Réf. : Lettre, n° 370/ SPM/ 10 du 28 novembre 2010 de Monsieur le Ministre.

En application des instructions de Monsieur le Ministre relatives à la mise en œuvre des dispositions des décrets exécutifs cités en objet ; J'ai l'honneur de vous transmettre ci- joint une procédure des modalités pratiques pour l'organisation du travail dans le cadre de cette mission.

D'autre part, des séances de travail seront programmées, au courant du mois de décembre 2010 et janvier 2011 pour une meilleure maitrise de l'organisation territoriale à mettre en place et la méthode de prise en charge de cette tâche en fonction de nos capacités matérielles et humaines.

Aussi, je vous invite à entamer d'ores et déjà, des discussions sur les voies et moyens à mettre en œuvre pour accomplir cette mission dans les meilleures conditions, avec les ingénieurs de vos structures respectives et de me transmettre les comptes rendus.

Veuillez agréer, Mesdames et Messieurs, mes salutations distinguées.

المدير العام بالنيابة
تيرش طيب

Copie à :
Monsieur le Ministre à titre de compte rendu
Mademoiselle la DGEDD pour info.

Siège Social : 11, rue Mohamed TAZAIRT, Bab El-Oued - ALGER - Tél./Fax : 021 96 74 23

الجمهورية الجزائرية الديمقراطية الشعبية

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

Ministère de l'Aménagement du Territoire, et de l'Environnement

وزارة تهيئة الإقليم، و البيئة

LE MINISTRE

الوزير

Réf. : 370/SPM/10

Alger, le 28 NOV 2010

A Mesdames et Messieurs :

- **La Directrice Générale de l'Environnement et du Développement Durable (pour suivi),**
- **Les Directeurs de l'Environnement de Wilayas (pour exécution),**
- **Le Directeur Général de l'ONEDD (pour exécution),**

Objet : Mise en œuvre des dispositions des décrets exécutifs n°07-299 et 07-300 du 17 Septembre 2007.

J'ai l'honneur de vous faire part ci- dessous, des dispositions que vous êtes instruits de mettre en œuvre dans le cadre de l'application des décrets exécutifs n° 07-299 et 07-300 du 17 Septembre 2007 fixant respectivement les modalités d'application de la taxe complémentaire sur la pollution atmosphérique d'origine industrielle et sur les eaux usées industrielles.

1. La charge de référence à retenir pour la détermination du coefficient multiplicateur est la charge polluante moyenne annuelle supposée uniformément diluée dans le volume moyen annuel du rejet de l'installation.
   Aussi, le calcul de la charge polluante sera opéré sur la base de quatre (04) échantillons – un prélèvement par trimestre – et le débit moyen du rejet de l'installation, pour déterminer la concentration moyenne relative à chaque type de polluant, en fonction de la classification des catégories d'installation de l'annexe II du décret exécutif n° 06-141 du 19 Avril 2006 définissant les valeurs limites des rejets d'effluents liquides industriels et le décret exécutif n° 06-138 du 15 Avril 2006 réglementant l'émission dans l'atmosphère de gaz, fumées, vapeurs, particules liquides ou solides, ainsi que les conditions dans lesquelles s'exerce leur contrôle.

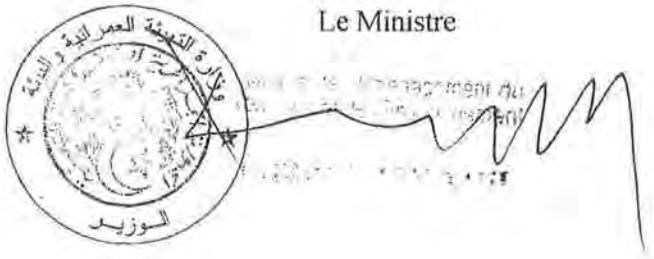
Le coefficient multiplicateur à appliquer sera obtenu par la moyenne pondérée des coefficients de chaque paramètre, la méthode de calcul est ci- jointe en annexe I.

2. Transmettre à l'Observatoire National de l'Environnement et du Développement Durable (O.N.E.D.D) le cadastre actualisé des installations classées de vos wilayas respectives.

3. Saisir par écrit les responsables des installations classées de vos wilayas respectives à l'effet de se rapprocher des services de l'O.N.E.D.D pour un conventionnement des prélèvements d'échantillons et la détermination du débit de leurs rejets.

Comme cela est clairement indiqué, je tiens enfin à préciser que, la mise en application de ces dispositions permettra, en plus de la récupération de la taxe complémentaire sur la pollution et des effets induits pour la préservation de l'environnement, l'actualisation du cadastre des installations classées et l'établissement de la typologie de la pollution des zones industrielles.

Le Ministre



République Algérienne Démocratique Et Populaire

Ministère de l'Aménagement du Territoire et de l'Environnement

Observatoire Nationale de l'Environnement et du Développement Durable

O.N.E.D.D

ANNEXE I

METHODOLOGIE DE DETERMINATION

DU

COEFFICIENT MULTIPLICATEUR

Dans le cadre de la mise en œuvre de l'application des décrits exécutifs N° 07 – 299 et 07- 300 du 17 Septembre 2007.

I-Méthodologie de détermination du coefficient multiplicateur

Dans le cas présent, la problématique consiste à calculer un seul et unique coefficient (le coefficient multiplicateur pour déterminer la taxe complémentaire sur la charge polluante rejetée par une unité industrielle), pour plusieurs paramètres d'un même échantillon, mais dont la charge polluante est différente quantitativement, qualitativement et n'ayant pas toujours la même unité de mesure.

Cependant, il est clair que quelque soit le paramètre qui a la charge de pollution la plus importante, cette dernière tant qu'elle existe reste nocive pour le respectable du rejet, son environnement immédiat et parfois lointain.

Dans de pareilles conditions, calculer le coefficient multiplicateur par une moyenne arithmétique des coefficients, ou du taux de charge, de pollution de chaque paramètre serait inapproprié.

Pour avoir un coefficient multiplicateur qui soit représentatif de la charge totale rejetée, le calcul de ce dernier par une moyenne pondérée est plus indiqué.

Cette dernière est obtenue par application de la formule suivante,

$$Mp = \frac{C_1T_1 + C_2T_2 + \cdots + C_nT_n}{C_1 + C_2 + \cdots + C_n} = \frac{\sum_{i=1}^{n} C_iT_i}{\sum_{i=1}^{n} C_i}$$

Avec

Mp : moyenne pondérée.

C_i : le coefficient multiplicateur de chaque paramètre.

T_i : le taux de charge polluante de chaque paramètre.

n : le nombre de paramètres et i = 1,2,……, n.

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE, ET DE L'ENVIRONNEMENT

OBSERVATOIRE NATIONAL DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE

Bulletin d'analyses

Dénomination unité :.....
Adresse :.....
Activité :.....
Catégorie d'installation :.....

Paramètres	Unités	Résultats analyses				Moyennes annuelles	Valeurs limites tolérées
		1er trimestre	2eme trimestre	3eme trimestre	4eme trimestre		
		Ech- 01	Ech- 02	Ech-04	Ech-04		
Débit	l/s						

Fait à..... Le.....

Le Directeur .....

II- Cas concret d'application

Paramètre	Unité	Résultat				Moyenne annuelle (mg/l)	Valeur limite (mg/l)	(1) Charge polluante rejetée (kg/an)	(2) Charge limite tolérée (kg/an)	Écart (1)-(2)	Taux de charge de pollution	Coefficient multiplicateur par paramètre
		Ech 1	Ech 2	Ech 3	Ech 4							
T°	C°	28	29	31	30	29,5	30	29.5	30	-	-	-
PH	-	8.5	8	9	9	08,62	6-9	08.62	6-9	-	-	-
DBO5	Mg/l	300	350	250	300	300	200	1 666	777,6	388,4	50 %	3
DCO	Ml/l	350	300	300	400	337,5	200	1 312	777,6	534.40	68,72 %	4
M.E.S	Mg/l	350	300	400	300	337,5	300	1 312	1 166,4	145,60	12,50 %	3
Huiles et graisses	Mg/l	8	8	7	6	7,25	5	28 ,20	19,44	8,76	45 %	1
Débit	l/s	0,5	0,5	6	00	0,5	-	-	-	-	-	-

Tab.1 : cas de résultats d'analyses pour une sucrerie.

Le calcul du débit moyen annuel (l/an)

On a le débit moyen annuel qui est égal à 0,5 l/s ; pour avoir le débit en l/h on multiplie 0,5*3600 ce qui donne 1800 l/h

En considérant que l'unité (sucrerie) tourne pendant 08 heures par jour, le débit devient 1800*8 =14400 l/j, comme l'unité tourne pendant 270 jours par an alors on multiplie le résultat final par 270 pour avoir le débit moyen annuel en l/an ce qui donne 3. 888. 000. l/an.

Débit moyen annuel = 3. 888. 000 l/an.

Le calcul de la charge polluante rejetée (kg/an)

Pour la DBO_5

La moyenne annuelle de la DBO_5 égale à 300 mg/l, donc pour avoir la charge polluante rejetée on multiplie 300 mg/l par le débit moyen annuel qui est de 3. 888. 000 l/an ce qui donne 1.166. 400. 000 mg/an qui est l'équivalent de 116,6 kg/an

Le calcul de la valeur limite tolérée (kg/an)

Pour la DBO_5

La valeur limite de la DBO_5 est égale à 200 mg/l, donc pour avoir la valeur limite tolérée on multiplie 200 mg/l par le débit moyen annuel qui est de 3. 888. 000 l/an ce qui donne 7. 776. 000. 00 mg/an, qui est l'équivalent de 777,6 kg/an.

Le calcul du taux de charge de pollution %

Pour la DBO_5

Pour avoir le taux de charge de pollution il faudra d'abord calculer l'écart entre la charge de pollution rejetée et la charge limite tolérée c'est-à-dire 1.166 - 777,6 ce qui donne 388,4 kg/an ensuite, on effectue la règle de trois c'est-à-dire :

200 (valeur limite) ⟶ 100 %

388,4 (écart) ⟶ taux de charge de pollution

Taux de charge de pollution = (388,4/200) * 100 = 50 % ϵ [41%, 60%]

On a 50 % ϵ [41%, 60%] donc on attribue à la DBO_5 le coefficient 3.

En effectuant les mêmes calculs pour les autres paramètres, on aura le tableau1

Le calcul du coefficient multiplicateur de l'unité

Pour avoir un seul coefficient multiplicateur qui soit représentatif de la charge de pollution totale, on calcule la moyenne pondérée. Cette dernière est obtenue par application de la formule suivante :

$$Mp = \frac{C_1T_1+C_2T_2+C_3T_3+C_4T_4}{C_1+C_2+C_3+C_4} = \frac{\sum_{i=1}^{4} C_iT_i}{\sum_{i=1}^{4} C_i}$$

Mp : moyenne pondérée.

C_i : le coefficient multiplicateur de chaque paramètre.

T_i : le taux de charge polluante de chaque paramètre.

$i = 1, 2, 3,4.$

paramètres	T_i	C_i
DBO_5	50	3
DCO	68.72	4
Huiles et graisses	45	3
M.E.S	12.5	1

$$Mp = \frac{(50*3)+(68,72*4)+(45*3)+(12,5*1)}{3+4+3+1} = \mathbf{52.03\ \%}$$

Ce taux appartient à l'intervalle [41, 60] d'où le coefficient multiplicateur de l'unité considérée : 4.

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE, ET DE L'ENVIRONNEMENT

OBSERVATOIRE NATIONAL DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE

Détermination de la charge de pollution et coefficient multiplicateur

Dénomination unité :.....
Adresse :.....
Activité :.....
Catégorie d'installation :.....

Paramètres	Charge moyenne annuelle de pollution (1)	Charge limite tolérée selon décret 06-141 (2)	Ecart (1) – (2) (3)	Taux de charge de pollution détectée (3) / (2)	Coefficient multiplicateur Par paramètres

- Coefficient multiplicateur :

Fait à :..... Le :.....

Le Directeur :.....

Vu la loi n° 02-11 du 20 Chaoual 1423 correspondant au 24 décembre 2002 portant loi de finances pour 2003, notamment son article 94 ;

Vu la loi n° 03-10 du 19 Joumada El Oula 1424 correspondant au 19 juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable ;

Vu le décret présidentiel n° 07-172 du 18 Joumada El Oula 1428 correspondant au 4 juin 2007 portant nomination du Chef du Gouvernement ;

Vu le décret présidentiel n° 07-173 du 18 Joumada El Oula 1428 correspondant au 4 juin 2007 portant nomination des membres du Gouvernement ;

Vu le décret exécutif n° 06-141 du 20 Rabie El Aouel 1427 correspondant au 19 avril 2006 définissant les valeurs limites des rejets d'effluents liquides industriels ;

Vu le décret exécutif n° 06-198 du 4 Joumada El Oula 1427 correspondant au 31 mai 2006 définissant la réglementation applicable aux établissements classés pour la protection de l'environnement ;

Vu le décret exécutif n° 07-144 du 2 Joumada El Oula 1428 correspondant au 19 mai 2007 fixant la nomenclature des installations classées pour la protection de l'environnement ;

Décrète :

Article 1er. — En application des dispositions de l'article 94 de la loi n° 02-11 du 20 Chaoual 1423 correspondant au 24 décembre 2002, susvisée, le présent décret a pour objet de fixer les modalités d'application de la taxe complémentaire sur les eaux usées industrielles.

Art. 2. — La taxe complémentaire sur les eaux usées industrielles concerne la charge de pollution rejetée dépassant les valeurs limites fixées par les dispositions du décret exécutif n° 06-141 du 20 Rabie El Aouel 1427 correspondant au 19 avril 2006, susvisé.

Art. 3. — La répartition du coefficient multiplicateur est fixée comme suit :

— charge de pollution dépassant de 10% à 20% les valeurs limites : coefficient 1

— charge de pollution dépassant de 21% à 40% les valeurs limites : coefficient 2

— charge de pollution dépassant de 41% à 60% les valeurs limites : coefficient 3

— charge de pollution dépassant de 61% à 80% les valeurs limites : coefficient 4

— charge de pollution dépassant de 81% à 100% les valeurs limites : coefficient 5.

Art. 4. — La détermination des quantités de pollution rejetées afin de fixer le coefficient multiplicateur applicable est opérée sur la base des analyses des rejets des eaux usées industrielles effectuées par l'observatoire national de l'environnement et du développement durable "ONEDD".

Le coefficient multiplicateur applicable à chaque établissement classé est transmis au receveur des contributions diverses de la wilaya par les services de l'environnement de la wilaya concernée.

Art. 5. — Le présent décret sera publié au *Journal officiel* de la République algérienne démocratique et populaire.

Fait à Alger, le 15 Ramadhan 1428 correspondant au 27 septembre 2007.

Abdelaziz BELKHADEM.

Décret exécutif n° 07-301 du 15 Ramadhan 1428 correspondant au 27 septembre 2007 modifiant et complétant le décret n° 80-184 du 19 juillet 1980 portant mise en place des organes de coordination des actions de protection des forêts.

Le Chef du Gouvernement,

Sur le rapport du ministre de l'agriculture et du développement rural,

Vu la Constitution, notamment ses articles 85-4° et 125 (alinéa 2) ;

Vu la loi n° 84-12 du 23 juin 1984, modifiée et complétée, portant régime général des forêts ;

Vu la loi n° 90-08 du 7 avril 1990, complétée, relative à la commune ;

Vu la loi n° 90-09 du 7 avril 1990, complétée, relative à la wilaya ;

Vu la loi n° 03-10 du 19 Joumada El Oula 1424 correspondant au 19 juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable ;

Vu le décret n° 80-184 du 19 juillet 1980 portant mise en place des organes de coordination des actions de protection des forêts ;

Vu le décret présidentiel n° 07-172 du 18 Joumada El Oula 1428 correspondant au 4 juin 2007 portant nomination du Chef du Gouvernement ;

Vu le décret présidentiel n° 07-173 du 18 Joumada El Oula 1428 correspondant au 4 juin 2007 portant nomination des membres du Gouvernement ;

Décrète :

Article 1er. — Le présent décret a pour objet de modifier et de compléter certaines dispositions du décret n° 80-184 du 19 juillet 1980, susvisé.

Art. 2. — Les dispositions de *l'article 2* du décret n° 80-184 du 19 juillet 1980, susvisé, sont modifiées et rédigées comme suit :

Décret exécutif n° 07-299 du 15 Ramadhan 1428 correspondant au 27 septembre 2007 fixant les modalités d'application de la taxe complémentaire sur la pollution atmosphérique d'origine industrielle.

Le Chef du Gouvernement,

Sur le rapport du ministre de l'aménagement du territoire, de l'environnement et du tourisme,

Vu la Constitution, notamment ses articles 85-4° et 125 (alinéa 2) ;

Vu la loi n° 84-17 du 7 juillet 1984, modifiée et complétée, relative aux lois de finances ;

Vu la loi n° 91-25 du 16 décembre 1991 portant loi de finances pour 1992, notamment son article 117 ;

Vu la loi n° 99-11 du 15 Ramadhan 1420 correspondant au 23 décembre 1999 portant loi de finances pour 2000, notamment son article 54 ;

Vu la loi n° 01-21 du 7 Chaoual 1422 correspondant au 22 décembre 2001 portant loi de finances pour 2002, notamment son article 205 ;

Vu la loi n° 03-10 du 19 Joumada El Oula 1424 correspondant au 19 juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable ;

Vu le décret présidentiel n° 07-172 du 18 Joumada El Oula 1428 correspondant au 4 juin 2007 portant nomination du Chef du Gouvernement ;

Vu le décret présidentiel n° 07-173 du 18 Joumada El Oula 1428 correspondant au 4 juin 2007 portant nomination des membres du Gouvernement ;

Vu le décret exécutif n° 06-138 du 16 Rabie El Aouel 1427 correspondant au 15 avril 2006 réglementant l'émission dans l'atmosphère de gaz, fumées, vapeurs, particules liquides ou solides, ainsi que les conditions dans lesquelles s'exerce leur contrôle ;

Vu le décret exécutif n° 06-198 du 4 Joumada El Oula 1427 correspondant au 31 mai 2006 définissant la réglementation applicable aux établissements classés pour la protection de l'environnement ;

Vu le décret exécutif n° 07-144 du 2 Joumada El Oula 1428 correspondant au 19 mai 2007 fixant la nomenclature des installations classées pour la protection de l'environnement ;

Décrète :

Article 1er. — En application des dispositions de l'article 205 de la loi n° 01-21 du 7 Chaoual 1422 correspondant au 22 décembre 2001, susvisée, le présent décret a pour objet de fixer les modalités d'application de la taxe complémentaire sur la pollution atmosphérique d'origine industrielle.

Art. 2. — La taxe complémentaire sur la pollution atmosphérique d'origine industrielle concerne les quantités émises dépassant les valeurs limites fixées par les dispositions du décret exécutif n° 06-138 du 16 Rabie El Aouel 1427 correspondant au 15 avril 2006, susvisé.

Art. 3. — La répartition du coefficient multiplicateur est fixée comme suit :

— quantités émises dépassant de 10% à 20% les valeurs limites : coefficient 1

— quantités émises dépassant de 21% à 40% les valeurs limites : coefficient 2

— quantités émises dépassant de 41% à 60% les valeurs limites : coefficient 3

— quantités émises dépassant de 61% à 80% les valeurs limites : coefficient 4

— quantités émises dépassant de 81% à 100% les valeurs limites : coefficient 5

Art. 4. — La détermination des quantités de pollution rejetées afin de fixer le coefficient multiplicateur applicable est opérée sur la base des analyses des émissions atmosphériques d'origine industrielle effectuées par l'observatoire national de l'environnement et du développement durable "ONEDD".

Le coefficient multiplicateur applicable à chaque établissement classé est transmis au receveur des contributions diverses de la wilaya par les services de l'environnement de la wilaya concernée.

Art. 5. — Le présent décret sera publié au *Journal officiel* de la République algérienne démocratique et populaire.

Fait à Alger, le 15 Ramadhan 1428 correspondant au 27 septembre 2007.

Abdelaziz BELKHADEM.

Décret exécutif n° 07-300 du 15 Ramadhan 1428 correspondant au 27 septembre 2007 fixant les modalités d'application de la taxe complémentaire sur les eaux usées industrielles.

Le Chef du Gouvernement,

Sur le rapport du ministre de l'aménagement du territoire, de l'environnement et du tourisme,

Vu la Constitution, notamment ses articles 85-4° et 125 (alinéa 2) ;

Vu la loi n° 84-17 du 7 juillet 1984, modifiée et complétée, relative aux lois de finances ;

Vu la loi n° 91-25 du 16 décembre 1991 portant loi de finances pour 1992, notamment son article 117 ;

Vu la loi n° 99-11 du 15 Ramadhan 1420 correspondant au 23 décembre 1999 portant loi de finances pour 2000, notamment son article 54 ;

ANNEXE II

TOLERANCE A CERTAINES VALEURS LIMITES DES PARAMETRES DE REJETS D'EFFLUENTS LIQUIDES INDUSTRIELS SELON LES CATEGORIES D'INSTALLATIONS

1 - INDUSTRIE AGRO-ALIMENTAIRE :

a - Abattoirs et transformation de la viande :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Volume /quantité	m3/t carcasse traitée	6	8
PH	-	5,5 - 8,5	6-9
DBO_5	g/t	250	300
DCO	"	800	1 000
Matière décantable	"	200	250

b - Sucrerie :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	30
PH	-	6-9	6-9
DBO_5	mg/l	200	400
DCO	"	200	250
MES	"	300	350
Huiles et graisses	"	5	10

c - Levurerie :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	35
PH	-	5,5 - 8,5	6,5 - 8,5
DBO_5	mg/l	100	120
DCO	"	7 000	8 000
MES	"	30	50

d - Brasserie :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	30
PH	-	5,5 - 8,5	9 - 10,5
DBO^5	g/t de malt produit	250	300
DCO	"	700	750
MES	"	250	300

PH : Potentiel d'hydrogène
DBO_5 : Demande biologique en oxygène pour une période de cinq (5) jours
DCO : Demande chimique en oxygène
MES : Matière en suspension

e - Corps Gras :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	30
PH	-	5,5 - 8,5	6-9
DBO5	g/t	200	250
DCO	"	700	800
MES	"	150	200

2 - Industrie de l'Energie :

a - Raffinage de pétrole :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Débit d'eau	m3/t	1	1,2
Température	°C	30	35
PH	-	5,5 - 8,5	5,5 - 8,5
DBO_5	g/t	25	30
DCO	"	100	120
MES	"	25	30
Azote total	"	20	25
Huiles et graisses	mg/l	15	20
Phénol	g/t	0,25	0,5
Hydrocarbures	g/t	5	10
Plomb	mg/l	0,5	1
Chrome 3+	"	0,05	0,3
Chrome 6+	"	0,1	0,5

b - Cokéfaction :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
DBO_5	mg/l	30	40
DCO	"	120	200
Phosphores	"	2	2
Cyanures	"	0,1	0,1
Composés d'Azote	"	35	40
Indice Phénols	"	0,3	0,5
Benzène, Toluène, Xylène	"	0,08	0,1
Hydrocarbures Aromatiques Polycycliques	"	0,08	0,1
Sulfure	"	0,08	0,1
Substances filtrables	"	40	50

PH : Potentiel d'hydrogène
DBO_5 : Demande biologique en oxygène pour une période de cinq (5) jours
DCO : Demande chimique en oxygène
MES : Matière en suspension

3 - Industrie mécanique :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	30
PH	-	5,5- 8,5	5,5- 8,5
DCO	mg/l	300	350
Cyanure	"	0,1	0,15
Cuivre	"	0,7	1
Nickel	"	0,7	1
Zinc	"	2,5	3
Plomb	"	0,7	1
Cadmium	"	0,5	1
Hydrocarbures	"	15	20
Phénol	"	0,5	1
Métaux totaux	"	20	25

4 - Industrie de transformation des métaux :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Cuivre	mg/l	1.5	2
Nickel	"	2	2,5
Chrome	"	1,5	2
Fer	"	5	7,5
Aluminium	"	5	7,5

5 - Industrie de minerais non métallique :

a - Céramique :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	30
PH	-	5,5 - 8,5	5,5 - 8,5
DCO	mg/l	80	120
Matière décantable	"	0,5	1
Plomb	"	0,5	1
Cadmium	"	0,07	0,2

b - Verre :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES INDUSTRIES ANCIENNES
Température	°C	30	30
PH	-	5,5 - 8,5	5,5 - 8,5
DCO	mg/l	80	120
MES	"	0,3	0,5
Plomb	"	0,5	1
Cadmium	"	0,07	0,2
Chrome	"	0,1	0,1
Cobalt	"	0,1	0,1
Cuivre	"	0,1	0,3
Nickel	"	0,1	0,5
Zinc	"	2	5

PH : Potentiel d'hydrogène
DCO : Demande chimique en oxygène
MES : Matière en suspension

c - Ciment, plâtre et chaux :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	30
PH	-	5,5 - 8,5	5,5 - 8,5
DCO	mg/l	80	120
Matière décantable	"	0,5	1
Plomb	"	0,5	1
Cadmium	"	0,07	0,2
Chrome	"	0,1	0,1
Cobalt	"	0,1	0,1
Cuivre	"	0,1	0,3
Nickel	"	0,1	0,5
Zinc	"	2	5

6 - Industrie de textile :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES ANCIENNES INSTALLATIONS
Température	°C	30	35
PH	-	6,5-8,5	6-9
DBO_5	mg/l	150	200
DCO	"	250	300
Matière décantable	"	0,4	0,5
Matière non dissoute	"	30	40
Oxydabilité	"	100	120
Permanganate	"	20	25

7 - Industrie de tannerie et mégisserie :

PARAMETRES	UNITE	VALEURS LIMITES	TOLERANCE AUX VALEURS LIMITES INDUSTRIES ANCIENNES
DBO_5	mg/l	350	400
DCO	"	850	1000
MES	"	400	500
Chrome total	"	3	4

PH : Potentiel d'hydrogène
DBO_5 : Demande biologique en oxygène pour une période de cinq (5) jours
DCO : Demande chimique en oxygène
MES : Matière en suspension

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE ET DE L'ENVIRONNEMENT

OBSERVATOIRE NATIONALE DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE

PROCEDURE DE MISE EN ŒUVRE DES DISPOSITIONS DES DECRETS EXECUTIFS N° 07-299 ET 07-300 DU 17 SEPTEMBRE 2007

PREAMBULE :

Les instructions contenues dans la lettre, n° 370/SMP/10 du 28 novembre 2010, de Monsieur le Ministre de l'Aménagement du Territoire et de l'Environnement, relative à la mise en œuvre des dispositions des décrets exécutifs n°07-299 et 07-300 du 17 septembre 2007, nous interpellent pour une prise en charge des analyses physico- chimiques des rejets d'effluents liquides et gazeux des installations industrielles à l'échelle du territoire national.

L'ampleur et l'importance de cette mission, nécessitent la mise en place d'une organisation et d'une méthode de travail qui nous permettront d'assurer cette dernière avec rigueur et compétence.

La présente procédure de mise en œuvre tente de tracer les voies et moyens pour y parvenir et d'éviter les contraintes qui pourraient surgir lors des premières applications.

Il est entendu, qu'elle fera l'objet d'amendements et d'enrichissements de part vos expériences, et des solutions, que vous êtes appelés à apporter aux contraintes que vous rencontrerez sur le terrain.

I. DE LA COMPETENCE TERRITORIALE DES LABORATOIRES REGIONAUX ET DES STATIONS DE SURVEILLANCE.

La mise en œuvre de dispositions contenues dans l'instruction de Monsieur le Ministre de l'Aménagement du Territoire et de l'Environnement, est supposée apporter un flux très important, d'analyses physico- chimiques, auquel nous devons faire face et satisfaire en grande partie cette demande.

En effet, la prise en charge, de toutes les commandes d'analyses des installations classées, nécessite une organisation et une complémentarité entre les laboratoires régionaux et les stations de surveillance.

A ce titre, les paramètres à analyser sont ceux fixés dans les annexes, des décrets 06-141 du 19 Avril 2006 pour les rejets d'effluents liquides industriels et 06-138 du 15 avril 2006 pour les émissions à l'air, en fonction des catégories d'installation et leurs activités.

Or, les stations de surveillance ne sont pas équipées pour déterminer certains paramètres, cas des métaux lourds.

Elles doivent travailler en complémentarité avec les laboratoires régionaux pour une prise en charge effective de la future commande.

Cela suppose aussi, l'organisation d'un déploiement territorial, afin de toucher le plus grands nombre d'unités industrielles.

CHAMPS D'INTERVENTION DES STRUCTURES :

STRUCTURES	WILAYAS RATTACHEES	OBSERVATIONS
L.R Centre- Alger	Alger, Blida, Tipaza, Boumerdés, Tizi-Ouzou	
St. Surveillance DJELFA	Djelfa, Laghouat, M'sila, Médéa- sud	
St Surveillance Aïn Defla	Aïn Defla, Chlef, Médéa -nord	
St Surveillance BB Arreridj	B.B.A, Sétif, Bouira	
L.R.Est- Constantine	Constantine, Guelma, Mila, Oum El Bouaghi, Batna	En attendant la mise en service de la station de Batna (2011) pour Batna, Biskra
St Surveillance Annaba	Annaba, El Tarf	En attendant la mise en service de la station de Tébessa (2012)
St Surveillance Skikda	Skikda, Jijel, Béjaïa	Tébessa, Souk Ahras
L.R Ouest –Oran	Oran, Aïn Temouchent, Tlemcen	Station de surveillance de Naama (2011)
St surveillance Mostaganem	Mostaganem, Relizane	Naama- El Bayadh, Béchar
St surveillance de Saïda	Saïda, Mascara, S.B.A	
L.R Sud Ghardaïa	Ghardaïa, Ouargla, El Oued	Pour l'exercice 2012

II- DE LA METHODE D'ORGANISATION DU TRAVAIL

La concentration moyenne relative à chaque type de polluant opérée sur la base des analyses de quatre (04) échantillons, un prélèvement par trimestre, et la calcul du débit moyen du rejet permettront de déterminer, par le biais de leur moyenne pondérée, la charge polluante moyenne annuelle.

Effectuer un prélèvement par trimestre pour un nombre important d'installations industrielles et réaliser les analyses y afférentes nécessitent une méthodologie pratique des interventions.

A ce titre, pour une prise en charge rapide de la demande, les actions suivantes sont indispensables,

a. Dans une première étape, en attendant la désignation de directeurs régionaux, les directeurs de laboratoires régionaux, assureront la coordination régionale, en communication avec le Directeur Général, avec les stations de surveillance en fonction des compétences territoriales ci- dessus arrêtées.

b. Une délégation de signature, à l'effet de signer les conventions d'analyses, sera donnée aux directeurs des laboratoires régionaux et aux chefs de stations de surveillance (modèle de convention ci- joint)

c. Dés la réception des listings des unités industrielles et l'enregistrement des premières conventions, il est impératif d'établir un planning trimestriel et annuel des prélèvements d'échantillons.

PLANNING PREVISIONNEL DES PRELEVEMENTS

Année :.....

Unités industrielles (dénomination exacte- adresse- tel / fax)	Catégorie activité	Date prévisionnelles des prélèvements			
		1er trimestre	2 eme trimestre	3 eme trimestre	4 eme trimestre
Unité : X Z.I.Oued Smar Fax.....	Agro- Alimentaire Conserverie legumes	2 janvier	2 avril	2 juillet	2 octobre

d. La programmation des prélèvements d'échantillons doit se faire en tenant compte de la proximité des unités industrielles entre elles, c'est-à-dire que pour un jour donné, le 2 janvier par exemple, il faut programmer des unités qui soient dans la même zone industrielle, où dans le même axe routier etc...., afin de faire un maximum de prélèvements et éviter les pertes de temps dans les trajets d'une unité à une autre.

e. En attendant la dotation en moyens de transport, pour effectuer les prélèvements, il y a lieu de recourir à la location de véhicules, pour cela et en fonction du programme de sorties pour les prélèvements, les directeurs de laboratoires régionaux et chefs de stations négocieront des conventions pour la location de véhicules, en tenant compte des aspects technico-économiques et des capacités de réalisations d'analyses.

f. En cas de forte demande, il y a lieu de prévenir et d'organiser le travail en brigade les weeks end et jours fériés.

g. La ponctualité pour l'établissement et la transmission des rapports d'activités mensuels permettra à la commission centrale de suivi, d'établir les besoins en produits chimiques et réactifs, et éviter les ruptures de stocks.

h. La procédure de gestion de la réception des échantillons à l'émission des bulletins d'analyse et la facturation y afférente qui vous a été transmise en date du 29/12/9009 sous le numéro 952 reste en vigueur

i. Des formations de courtes durées sur les procédures d'échantillonnage, de traitement des échantillons et de maitrise de l'utilisation des équipements, seront organisées en tant que de besoins pour les éléments des stations de surveillance. Dans ce cadre, un canevas vous sera transmis pour l'identification exacte de vos besoins de formation.

j. Les laboratoires régionaux et les stations de surveillance qui ne sont pas dotés de débit mètre, déterminent le débit avec les moyens rudimentaires, (bidon et chronomètre).
Dans le cas où le rejet est inaccessible, branché au réseau d'assainissement ou puisage difficile, il y a lieu de déterminer ce dernier par le biais des factures de consommation d'eau.

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE ET DE L'ENVIRONNEMENT

OBSERVATOIRE NATIONAL DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE

Prix des Analyses à appliquer dans le cadre du décret exécutif n°07-300 du 17 septembre 2007

Paramètres	Normes	Prix en HT (DA)
		Prix unitaire
I. Echantillon Liquide		
Prélèvement, Traitement et préparation échantillon	-	4.000
Température	Multi Paramètres	200
pH	Multi Paramètres	300
Conductivité spécifique	Multi Paramètres	300
Potentiel Redox	Multi Paramètres	300
Oxygène dissous	Multi Paramètres	300
Oxygène dissous de saturation	Multi Paramètres	300
Salinité	Multi Paramètres	300
DBO5	Iso 5815-1 :2003	3 500
DCO	Iso 6060 :1989	3 500
MES	Iso 11923 :1997	1 500
Huiles et graisses	Méthode Rodier	2 500
Phosphore total	Iso 6878 :2004	2 500
Ortophosphate	Iso 6878 :2004	2 500
Sulfures	Iso 13358 :1997	2 500
Chlorures	Méthode Rodier	2 500
Fluorures	Iso 10359-2 :1994	2 500
Azote Kjeldahl	Iso 5663 :1984	3 000
Azote Total	Méthode Instrumentale	3 500
Chrome hexa valent	Iso 1083 :1994	3 500
Cyanures	Iso 5663 :1984	4 500
Matière décantable	Méthode Rodier	1 200
Indice de phénols	Iso 6439 :1990	3 500
Ammonium	Méthode Rodier	2 500
Nitrates	Iso 7890-1 :1986	2 500
Carbone organique total TOC	Méthode Instrumentale	2 500
Composés Organiques Chlorés		22.000

Hydrocarbures Totaux		22.000
Coliformes Totaux	Iso 9308-1 :2000	3 500
Coliformes Fécaux	Iso 9308-1 :2000	3 800
Cadmium Cd	Iso 8288 :1986	3 500
Calcium Ca	Iso 8288 :1986	3 500
Chrome Cr	Iso 8288 :1986	3 500
Cobalt Co	Iso 8288 :1986	3 500
Cuivre Cu	Iso 8288 :1986	3 500
Fer Fe	Iso 8288 :1986	3 500
Magnésium Mg	Iso 8288 :1986	3 500
Manganèse Mn	Iso 8288 :1986	3 500
Zinc Zn	Iso 8288 :1986	3 500
Nickel Ni	Iso 8288 :1986	3 500
Plomb Pb	Iso 8288 :1986	3 500
Argent Ag	Iso 8288 :1986	3 500
Molybdène Mo	Iso 8288 :1986	3 500
Aluminium	Iso 12020 :1997	4 500
Mercure Hg	Iso 5666 :1999	5 500
II. Echantillon Solide		
Prélèvement Traitement et préparation échantillon	-	6.000
Cadmium Cd	Iso 8288 :1986	5 500
Calcium Ca	Iso 8288 :1986	5 500
Chrome Cr	Iso 8288 :1986	5 500
Cobalt Co	Iso 8288 :1986	5 500
Cuivre Cu	Iso 8288 :1986	5 500
Fer Fe	Iso 8288 :1986	5 500
Magnésium Mg	Iso 8288 :1986	5 500
Manganèse Mn	Iso 8288 :1986	5 500
Zinc Zn	Iso 8288 :1986	5 500
Nickel Ni	Iso 8288 :1986	5 500
Plomb Pb	Iso 8288 :1986	5 500
Argent Ag	Iso 8288 :1986	5 500
Molybdène Mo	Iso 8288 :1986	5 500
Aluminium	Iso 12020 :1997	6 500
Mercure Hg	Iso 5666 :1999	9 000

Annex 5-2　Records of recommendation for Algerian side

Recommendations by JET after the 1st work in 2009

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ The PC connected to GCMS is still contaminated with computer virus. It must be carefully cleaned up using antivirus software.
- ✓ The following apparatus are necessity for GCMS. Order must be placed as soon as possible by ONEDD (to purchase by the end of January 2010 at last).
  - Shaker
  - Leak checker
- ✓ Since sensitive technique is required for operation of GCMS, in order to avoid mechanical trouble, it is recommended not to touch GCMS during JET's absence (until February 2010).
- ✓ It is requested not to lose any document and instruction manual related to the GCMS kept on the desk..
- ✓ It is necessary for the nominated C/P personnel to review EPA method for P&T/GCMS until next visit of JET.

1.2 FTIR

- ✓ To download FTIR spectra of organic materials for identification.
- ✓ To translate "Guide of FTIR spectroscopy (English version)" into French for deeper understanding.
- ✓ To revise the SOP.

1.3 XRF

- ✓ XRF instrument are requested to be well maintained, to keep in good condition for analysis. All sample holders must be cleaned after each analysis.
- ✓ Each of working record including name of the user, duration of analysis, and type of samples must be recorded in "XRF working notebook" together with signature of responsible personnel.
- ✓ It is required to clarify the target element for analysis using XRF instrument. It is strongly requested to make priority list of element to be studied in Phase 2.
- ✓ Used samples and sample holders for XRF analysis must be labeled and stored in certain cabinet. And each cabinet is also required to be labeled.

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

2.1 Activities of working group for environmental monitoring plan (Nov.2009 – Feb. 2010)

- ✓ To identify two inventories of pollution sources (approximately 50 for each Wilaya) with priority and location map in the model site (the basin of El Harrash, information provided by DEWA and DEWB).
- ✓ To classify pollution type (industry) based on effluent standard used in Algeria.
- ✓ To identify principal substances to be monitored on each pollution source (point pollution source) and monitoring point (sampling point from the bridge in the river) based on effluent standard used in Algeria.
- ✓ To elaborate tentative monitoring plan including monitoring points and pollution sources, monitoring parameters, monitoring schedule and its frequency based on the above inventory.
- ✓ To identify other monitored points to verify for general environment as a reference point in the model site.

2.2 Presentation for the technical seminar（in February 2010）

- ✓ To prepare presentation materials on tentative monitoring plan and related issues to be presented in the 1st technical seminar by ONEDD、DEWA and DEWB.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ Prepare the document, which include all information of "Certified Reference Material (CRM or standard)" owned by the CRL.
- ✓ It is necessary to keep "a laboratory log book" by the each laboratory staff.

- ✓ All of QC document are required in to be signed by the personnel who was involved in the analysis and responsible personnel at each measurement.
- ✓ Presentation for the technical seminar（in February 2010）. To prepare presentation materials on the above and related issues to be presented in the 1st technical seminar.

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ To prepare a draft of training program in 2010 conducted by ONEDD/CRL.

5. Recommendations for proper laboratory management

- ✓ Laboratory safety plan must be prepared by ONEDD to prevent any health damage may caused by laboratory work.
- ✓ Laboratory waste management plan must be prepared for CRL (liquid waste, solid waste etc.) .It is strongly requested to remove "chemical waste" from laboratory room. Storing these chemicals waste inside of laboratory may cause damages to health of staff and also to the electrical instruments.
- ✓ Broken equipment must be cleared from laboratory, especially, unnecessary items from "le enciens batiment laboratoir de l'ex ANPE" are needed.

6. Next visit and necessary actions to be taken by ONEDD/CRL during absence of JET

- ✓ Next visit of JET will be from the beginning of February until the beginning of March 2010 (one month only).
- ✓ To prepare presentation materials for the 1st technical seminar in February on output2 and output3 by ONEDD and CRL.
- ✓ To take actions by ONEDD and CRL for the above output1,2, 3, 4 as much as possible.
- ✓ To receive materials for GCMS, FTIR and XRF by ONEDD's own responsibility. Materials shall be arrived in Algeria **on December 20th 2009**. Soon after arrival of the materials, ONEDD shall undertake appropriate measures for custom clearance. Since inspection for imported materials will be conducted by JET in February 2010, it is requested not to open the boxes until next arrival of JET.
- ✓ To communicate with JET by email or Skype during absence of JET.

7. Others

- ✓ To prepare the annual (2010) plan of ONEDD including training program for CRL and regional laboratories.
- ✓ To prepare a new organization chart of ONEDD with a function of all department/section.
- ✓ To take actions for purchasing of He gas and necessary reagents, and to repair broken equipment at the CRL.
- ✓ To manage the working group on environmental monitoring plan for the model site (El Harrash).
- ✓ To organize 2nd Joint Coordination Committee in February 2010 where activities in progress and issues to be solved will be identified.

Recommendations by JET after the 2nd work in 2010

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ GCMS needs daily maintenance to check the leak of He gas. When GCMS is started up, or the column is changed, an accident of leakage may happen. To deal with such an emergency, it is highly recommended that the ONEDD purchases "the leak checker" as soon as possible.
- ✓ Tuning record of GCMS must be interfiled every time.
- ✓ When GCMS is used, the checklist of GCMS must be recorded.
- ✓ For the 3rd work by Ms. Fukaya in May, the SOPs should be updated on the basis of the results of training in the 2nd work.

1.2 FTIR

- ✓ Sample preparation for KBr disk method and liquid sample handling procedure should be included in SOP (draft ver. Jan 2010) which has been prepared by C/Ps.
- ✓ How to interpret and assign the absorption peaks of FTIR spectrum of citric acids downloaded from the AIST database should be learned.

1.3 XRF

- ✓ XRF instrument are requested to be well maintained, to keep in good condition for analysis. All sample holders must be cleaned after each analysis.
- ✓ Each of working record including name of the user, duration of analysis, and type of samples must be recorded in "XRF working notebook" together with signature of responsible personnel.
- ✓ It is required to clarify the target element for analysis using XRF instrument. It is strongly requested to make priority list of element to be studied in Phase 2.
- ✓ Used samples and sample holders for XRF analysis must be labeled and stored in certain cabinet. And each cabinet is also required to be labeled.

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ In order to verify the progress of the environmental monitoring plan in the model site, hold a meeting of the working group once a month at least.
- ✓ The working group should elaborate a report of environmental monitoring plan by the end of March at last to present the joint seminar- workshop in April.
- ✓ To conduct sampling and analysis in the model site based on environmental monitoring plan.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ It is necessary to establish authorization and verification process (system) for SOPs. In addition, verification record and changes that made in previous SOPs must be stored as documented management file.
- ✓ It is highly recommended to establish an organizational mechanism for Quality control system. In addition, it is necessary to be well maintained basic analytical equipments that are required for fundamental analysis. (Weight balances, pH meters, measurement pipettes, measurement cylinders, etc.)

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ To execute internal training according to the program of ONEDD/CRL.
- ✓ To submit a report elaborated by trainees to JET in the term of 3rd work.

5. Next stay and necessary actions to be taken by ONEDD/CRL during absence of JET

- ✓ Next visit of JET will be from the middle of May until the end of June 2010 as follows;
  - from the middle of May until the beginning of June: Dr. Ishimoto and Ms. Fukaya
  - from the beginning of June until the end of June: Mr. Fukushima and Dr. Tsuji
- ✓ To prepare presentation materials for the 3rd and 4th technical seminar in October where output1 （FTIR and GCMS） and other related subjects are presented by JET and ONEDD/CRL.
- ✓ To communicate with JET by email or Skype during absence of JET.

6. Others

- ✓ To prepare the annual (2010) plan of ONEDD including budget.
- ✓ To take necessary timely actions for purchasing gas and necessary reagents and apparatus to be used at the CRL.
- ✓ To organize 2nd Joint Coordination Committee in June 2010 where activities in progress and issues to be solved will be identified.

Recommendations by JET after the 3rd work in 2010

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ To start determination of volatile organnochlorine compound, fist of all, the SOP for analysis shall be fixed as well as SOP of operation process on both P&T and GCMS (combination). When completed them, send by e-mail as soon as possible. When necessary, explain the related issues.
- ✓ When completed elaboration of SOP, test a detection limit again. In order to make a standard properly, the measuring flask with 250ml or 500ml should be prepared as soon as possible by ONEDD-CRL.
- ✓ When you analyzed the sample, send each data as PDF file by email.
  - Result of determination.
  - Total ion chromatogram.
  - If any compounds are detected, mass chromatogram of target ion and reference ion.
- ✓ Purchase some the following equipments and glassware for the next training of PAH analysis.
  - Shaker: 2L, with separated funnel
  - Conical flask with glass stopper: 250ml or 300ml (The height must be under 14cm)

1.2 FTIR

- ✓ Print out " irAnalysis manuals " stored in Help of FTIR database to read through.
- ✓ Revision of manuals for management of materials relevant to the FTIR measurement, including how to dry desiccant materials.
- ✓ Management of Log-book
- ✓ Preparation of outline for presentation at the seminar which includes the following materials at least.
- ✓ Fundamentals of FTIR spectroscopy, Information of environmental samples (sampling site on map, properties of samples, time of sampling, and others), preparation method of KBr disk and how to preserve, how to identify environmental samples or assign the absorption bands, revision of SOP.
- ✓ Understand the environmental program.

1.3 XRF

- ✓ Determination of five grains prepared during exercise with manual procedures. Utilize NMIJ CRM 7501a or 7502a as standards.
- ✓ Prepare a brief report relating above analysis. Report should include objective, introduction, Materials and Methods and procedures, and results. Please your include your comments, observation, and difficulties you had faced during process.
- ✓ Analyze to prepare standard curves using NMIJ CRM 7302. Select the elements which are detectable using MINIPAL 4 instruments. Find detection limit and prepare proper standard curves for selected elements. Prepare 2nd standard for determination of environmental samples.
- ✓ Input necessary data for below CRMs and monitoring materials, then observe to clarify the contents of each material.
  - 6 monitor samples BR PA4, BRPC3, BR PE3, BR PB2, BR PD3, BR PF3
  - AUSMON Disk
- ✓ Prepare and collect the environmental sample from Oued El Harrach and practice the analysis procedures as necessary.

1.4 Determination of application (transfer technique) on GCMS, FTIR and XRF in the project

- ✓ Regarding GCMS, FTIR and XRF, determination of application in as well as transfer technique in the project was agreed between ONEDD-CRL and JET in the meeting on June 14th 2010 as shown **in Annex-1**

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ In order to verify the progress of the environmental monitoring program in the model site, hold a meeting of the working group when necessary.
- ✓ The working group should revise and modify the environmental monitoring program for the model site by September at last.

- ✓ To continue sampling and analysis in the model site continuously based on environmental monitoring program.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ Establish and prepare documents for Quality Control, system.
- ✓ Update Standard operation procedures (SOPs) for all of the analysis (Please include following information to each SOPs.).
  a) Target elements
  b) Safety procedure
  c) Apparatus, instrument, chemicals (reagents)
  d) Analytical Procedure
  - Preparation procedure (cleaning methods for equipment)
  - Preparation of Standard (standard curves)
  - Sample preparation
  - Blank preparation
  - Calculation and calibration methods

  e) Condition of instruments
  f) Quality assurance procedure
  g) Detection limit for analysis
  h) References

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ To execute internal training according to the program of ONEDD/CRL.
- ✓ To submit a training result as a report elaborated by trainees to JET in the next term.

5. Next stay and necessary actions to be taken by ONEDD/CRL during absence of JET

- ✓ Next visit of JET will be from the beginning of October until the beginning of December 2010 as follows tentatively;
  - from the beginning of October until the beginning of November: Mr. Fukushima and Dr. Tsuji
  - from the beginning of November until the beginning of December: Dr. Ishimoto and Ms. Fukaya
- ✓ To communicate with JET by email or Skype during absence of JET.
- ✓ To take necessary and timely action for the delivy reagents from Japan, such as custom clearance and legal procedures to related organizations. Reagents will be arrived in Alger in mid-July.

6. Others

- ✓ To present the annual (2010) plan of ONEDD including budget by next visit of JET.
- ✓ To take necessary timely actions for purchasing gas and necessary reagents and apparatus to be used at the CRL.
- ✓ As discussed in the meeting between ONEDD-CRL and JET on June 14th 2010, it is recommended to improve the laboratory management system through revision of related documents as shown in Annex-2.

Annex-1-(1)

Réunion Mixte Entre ONEDD/CRL et JET
Sur Le Thème De
« Détermination des usages des GCMS, FTIR, XRF »

- ➢ Qu'est-ce que L'ONEDD-CRL veut analyser avec GCMS, FTIR et XRF ?
  - ✓ Les parametres des effluents liquids industriels prévus par Le Décret exéctif n°06-141
  - ✓ Rechercher des produits polluants ?

- ➢ Application des GCMS, FTIR et XRF pour la surveillance environnementale de site-modèle

DÉTERMINATION DES USAGES DES GCMS, FTIR XRF DANS LA PROJET

Équipement	Substance pour analyse	Parametres des rejets d'effluents liquides industriels Décret exécutif No. 06-141	Application du Projet (Transfert de techniques)				Période d'application pour surveillance environnementale	Remarque
			Eaux usées	Eau de rivière	Eau souterraine	Sédiment de rivière (Sol)		
GCMS	BTX; Benzène, Toluène, Xylène	Pour industriels désignés	Application possible	Application possible	Application possible	Impossible en LRC	2010-	
	PAH; Hydrocarbure aromatique	Pour industriels désignés	Application très difficile	Application possible	Application possible	Application possible	2011-	Analyser une partie des substances
	Composé organochloré volatile	Application pour tous les effluents	Application possible	Application possible	Application possible	Impossible en LRC	2011-	Analyser une partie des dé tergents pour nettoyage et autres
	Pesticide organochloré	Application pour tous les effluents	Pas d'application	Application possible	Pas d'application	Pas d'application	2011-	Analyser une partie des insecticides rémanent représentatif
FTIR	Composé organique non-volatile	Pas de valeur standard	Application possible	Application possible	Application possible	Application possible	2011-	Analyse qualitative huile, comme huile lourde, cire, et autres, déterminer substances
XRF	Métaux lourds (Cd, Pb, As, Cr)	Application pour tous les effluents	Pas d'application	Pas d'application	Pas d'application	Application possible	2011-	Utiliser AAS simultanément selon densité
	Hg	Application pour tous les effluents	Pas d'application	Pas d'application	Pas d'application	Application possible	2011-	Utiliser Hg analyseur simultanément selon densité

Annex-1-(2)

Réunion Mixte Entre ONEDD/CRL Et JET
Sur Le Thème De
« Gestion du Laboratoire »

1-Problème concernant les échantillons non prélevés par les ingénieurs du laboratoire (LRC).

a) Lieu et moment du prélèvement inapproprié → réduit la fiabilité des résultats de l'analyse
b) Conservation des échantillons inadequat → réduit la fiabilité des résultats de l'analyse.
c) Type d'échantillons non correspondant aux paramètres demandés (qualité (liquide solide, quantité (volume) → refaire le prélèvement.
d) Impossibilité d'analyser certains paramètres demandés par le client pour cause de manque de capacités techniques du laboratoire.
e) Polluants dont l'origine n'est pas connue → analyse inutile, couts, temps, énergie, contamination de l'équipement et effets sur la santé.

2-Qui a la responsabilité d'accepter ou non un échantillon fourni par un client.

- Concertation entre le Directeur Général et le Directeur du LRC.
- Qui prend en charge les dépenses pour le prélèvement et les analyses (gestion de stocks achats des réactifs et d'équipements.

3-Elaboration d'un plan de prélèvement et d'analyses

- Provenance de l'échantillon.
- Ellaboration d'un plan d'analyses (paramètres, type d'échantillon, date et lieu du prélèvement et couts.)
- Annonce du plan de surveillance aux clients.

4-Révision et mise en œuvre de système de gestion du LRC /ONEDD élaboré durant la première phase.

- Organigramme.
- Flux d'information.
- Règles d'hygiène et gestion de la sécurité.
- Sécurité et maintenance des équipements.
- Gestion de stock.
- Gestion des documents et base de données.
- Gestions des (gaz eaux électricité et déchets du laboratoire)

Recommendations by JET after the 4th work in 2010

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ The auto-sampler of P&T is at fault, the cause is uncertain at present, but I think some electromagnetic valve is damaged. Next time, I will try to repair.
- ✓ The system of concentration by rotary evaporator has many problems. So, we cannot carry through the training of analysis of PAH.
  - The system is contaminated by oil, so we cannot inject the concentrated sample to GCMS. Remove the contamination and try to concentration, after inject to GCMS. Send me the total ion chromatogram as PDF file. If the result will become OK, shut down GCMS.
  - The pump to be used to this system is diaphragm pump, made for using of organic solvent (made diaphragm by PTFE). The pump used in phase 1 training is rotary pump. It is unsuitable for rotary evaporator because some oil mist will come to sample. And it was already broken. We changed pump to diaphragm pump, but if it is not for using of organic solvent, rubber parts will deteriorate and pump will be broken again. So, we need suitable pump by next training.
  - Trap globe is important to avoid contamination. Usually it is one part of rotary evaporator, but I can't find it. If possible, order the trap globe.
  - Trap is necessary between rotary evaporator and pump. But there is no suitable trap only for rotary evaporator. Please prepare by next training.
- ✓ Azote concentration apparatus has put together but sticker tape is used in connection because of luck of adapted parts. But to use sticker tape to high-pressured connection is very dangerous. Please change the connection to the proper one.
- ✓ In this training we had no time to change SOP for PAH. We have to fix the SOP of analysis, and also have to make the operation process SOP of changing from P&T to Direct injection. So, please bring to completion and send by e-mail as soon as you can. You can use French, but when I need, I'll ask and explain in English.
- ✓ We need some Acetone of pesticide-grade. Please order 1 bottle (6L).
- ✓ Start to prepare for your presentation in the next training. If you have any questions or anything, please let me know.

1.2 FTIR

- ✓ Print all spectra recorded hitherto to interpret them.
- ✓ Read and record peak positions of the above spectra. They can refer to the IR Solution software.
- ✓ Assign and interpret preliminarily the spectra. Refer to examples which the expert showed.
- ✓ Precisely record information of environmental samples. Naming/notation of samples may contain mistyping and/or error. See "Fiche Technique Pour FTIR" format.
- ✓ Fill up the blank column with corrected name of samples and spectra saved in PC.
- ✓ Complete Table "Characteristics of Spectrometries"
- ✓ Preparation of Seminar Materials
  The above materials may be used for presentation at the coming seminar on February 21, 2011. C/Ps needs to prepare documents for the seminar by the end of January 2011. These include at least:
  - Flow chart of measurement by FTIR, Details of Operation, e.g., SOP, Operation/Maintenance Manual, Storage Method of Samples and Spectra,
  - Principles and Methods of FIR spectrometry with examples, and others requisite for extended utilization of FTIR spectrometry

1.3 XRF

- ✓ Analyze Cd, Cr, Hg and PB. Create your own applications program under following conditions:
  Certified Standard: CFR146r
  Background sediment: Rice powder
  Determine ranges for each of element.
- ✓ Determine XRF spectra and complete a data-book for following Certified Standard
  1) BCR-142r,143r, 145r, 146r,320r
  2) AUSMON

3) LGC Standards PA4, PB2,PC3,PD3,PE3,PF3
4) NMIJ CRM 7302-a (marine), CRM 7402-a, 7501-a,7502-a
5) TOXEL Standard

- ✓ Collect one river sediment (Oued El Harrach) and dry and grind to prepare to utilize as background for further testing. Analyze this sediment with XRF.
- ✓ Prepare SOP documents to analyses Pb, Hg and Cd.
- ✓ Prepare Materials for the Seminar.
- ✓ The above materials may be used for presentation at the coming seminar on April

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ As discussed in the meeting between ONEDD-CRL and JET on October 2010, it is strongly recommended to execute the environmental monitoring of industry units in the model site based on **Annex-1.**
- ✓ In order to verify the progress of the environmental monitoring program in the model site, hold a meeting of the working group when necessary.
- ✓ The working group should revise and modify the environmental monitoring program for the model site by December at last.
- ✓ To continue sampling and analysis in the model site based on environmental monitoring program.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ As discussed in the meeting held previously, please kindly prepare the revised SOP's acordance with our discussion. All of the SOP's must revised before end of November.
- ✓ Prepare the list of all certified standard.

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ To clarify the budget and the program to execute internal training in 2011 (Annex-1).

5. Next stay and necessary actions to be taken by ONEDD/CRL during absence of JET

- ✓ Next visit of JET will be from the middle of January until the beginning of March 2011.
- ✓ To communicate with JET by email or Skype during absence of JET.
- ✓ To present the annual (2011) plan of ONEDD including budget by next visit of JET.

Annex-1

Mémorandum de la Réunion
entre
Directeur Général de l'ONEED et Leader de JET

le 28 Octobre, 2010

Subjet : Situation Actuelle des Activités du Projet

I. Dans le cadre du resultat 2 du projet transfert de technologie

1. L'élaboration du plan de surveillance détaillé
2. L'interpretation detaillées et évaluation des risques

1. Le plan de surveillance detaillé

Dans le cadre de la caractérisation de la pollution de Oued El Harrach, qui est prise dans le sens d'un cas d'école pour les ingénieurs du LRC, une convention a été située entre l'ONEDD de les Directions de l'Environnement des Wilayas d'Alger et de Blida, pour établir l'inventaire des unités industrielles et détermines les points de prélèvement tout au long du bassin versant de Oued El Harrach.
Les activités de prélèvements ont été lancées au début de l'année 2010 jusqu'à Octobre 2010 plusieurs unités industrielles pour celles inventariées ont établi des bons de commande à l'ONEDD pour l'analyse de leurs effluents. Cependant, le nombre de ces unités reste trés faible par rapport aux unités inventories.

Wilaya	Nombre d'unités Industrielles inventoriées	Nombre d'unités industrielles visitées	d'unités industrielles visitées en pourcentage
Alger	56	10	17.9 %
Blida	21	3	14.3%

Pour accélerer le programme de surveillance et des prélèvements, une réunion de coordination, entre le D.G de l'ONEDD, le Directeur de LRC et leader JET, s'est tenue le 12 Octobre 2010 au niveau de LRC.
Il a été convenu ce qui suit
a) - Le nombre de points de prélèvement le long de O.ELH est ramené à 6 points au lieu de initialement.
b) - La liste des unités industrielles qui n'ont pas établis de B.C à l'ONEDD sera communiquée aux Directerus de l'Environnement pour des lettres de rappel.
c) - Les unités industrielles dont les analyses de effluents ont déjà été réalisés seront appelés à effectues une analyse dans le cas de pic de polltuion constaté lors de la première analyse.

2. Interprétations détaillées et évaluation du risque des résultats de surveillance dans le site modèle du Projet

Des le debut de 2011 et une fois que toutes les donnes sont disponibles, une equipe d'ingenieurs du LRC fera la synthese des resultats et fera avec le soutien de la JET et de l'ONEDD l'interpreation, les tendances et évaluation du risque qui se degagent en matière de pollution dans la zone d'etude (Bassin verasant de Oued El Harrach).

II. Dans le cadre du resultat 4 du projet la formation interne
Dans le cadre de la formation interne, une première action de fromation, sur le méthods et procédure de principale analyses physico-chimiques et la familiarisation avec les équipements nécessaire, a été réalisée en Octobre -Novembre 2009 pour le ingenieurs de stations de surveillance de Bad Bon Asseridy et de Djelasa.
La réussite de cette opération a encouragé spot sadd l'oued a etablis un programme annuel à destination de ingénieurs de laboratoires d'Oran et Constantine et de toutes les stations de surveillance, pour uniformases les procédures d'analyses et inter calibrer les équipements.
Le programme n'a pas être consitisé à défaut de trésorier durant l'exercise 2010 et mise en oeuvre se fera dès que la situation de trésoreire sera améliorée.

Recommendations by JET after the 5th work in 2011

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ Analysis of VOCs containing BTX using GCMS-P&T:
  - ・Training to the c/p personnel has been conducted in 2010.
  - ・Since some malfunctioning points were found in P&T, repairing work is necessary.
  - ・Since JET gave a necessary information for the repairing work of P&T to SHIMAZU Tokyo in February 2011, JET recommends ONEDD to ask SHIMAZU Tokyo the repairing work at the ONEDD's expense.
  - ・In order to analyze real sample using GCMS-P&T, it is recommend to reconfirm a separation of substances and its retention time using new reagent after completion of the repairing work of P&T.
- ✓ Analysis of PAH using GCMS:
  - ・Training for procedures of analysis on PAH using GCMS has been conducted.
  - ・In order to analyze real sample using GCMS, JET recommends to put the self training into practice with the certainty.
  - ・Repetition of recovery test adding standard material/ Revalidation of recovery percentage using internal (deterated) standard material/ Analysis of certified reference material
- ✓ Analysis of pesticides using GCMS-P&T:
  - ・Giving training to c/p personnel, three (3) of pesticides are available to analyze using GCMS-P&T in LRC.
- ✓ Analysis of pesticides using GCMS:
  - ・Analysis of pesticide using GCMS will be available by applying the same procedures as PAH in principle.
  - ・Recommends a careful and strict management for the standard substances of pesticide to avoid any accident.
- ✓ Proper maintenance for GCMS:
  - ・Records the state of operation whenever using GCMS
  - ・Recommends a periodical self-maintenance in accordance with training.
- ✓ Proper maintenance on the Evaporator and the Vacuum Pump:
  - ・Clean up a trap ball in the Evaporator when becoming dirty, and record the time of exchange.
  - ・Clean up a filter of the Vacuum Pomp when becoming dirty, and record the time of exchange

1.2 FTIR

- ✓ Hydrocarbons are recommended for further monitoring by FTIR. They are the general name for substances consisting of carbon and hydrogen. Oil and gas are a group of typical hydrocarbons used widely in industrial scale.
- ✓ These are classified into volatile and non-volatile hydrocarbons. Typical non-volatile hydrocarbons are as follows:
  - ・Fuel of automobiles, planes, etc
  - ・Synthetic hydrocarbon oil and mechanical oil such as lubricants and insulation oil
  - ・Cyclic hydrocarbons
  - ・Polycyclic aromatic hydrocarbons born as residues of burning of coal and fuel
  - ・Long-chain hydrocarbons
- ✓ These hydrocarbons could be simply analyzed after extraction from samples with appropriate solvents such as n-hexane using the FTIR analytical system consisting of FTIR spectrometer and Data Libraries, while other spectroscopies require complicated pretreatment process.

1.3 XRF

- ✓ Collect Oued El Harrach samples and dry to utilize in XRF analysis for below target elements.
- ✓ Prepare the standard curve using Oued El Harrach sediment (S1) as background.
  Analyze contents of target elements in samples. Determine analytical ranges for each element and calculate the content for each of sample:
  Conditions:
  Certified Standard: CFR146r /or 344r
  Background sediment: Oued Halash sediment(S1)

Target Elements: Pb, Cd, Hg, and etc.
Parameter of XRF: Create your own application program
* Prepare a report containing following criteria:
Title ,Objectives, Methods, Result, Discussion.

- ✓ Determine XRF spectra and complete a data-book for Certified Standard and background sediment.
- ✓ Prepare SOP documents to analyse Pb, Hg and Cd using XRF.
- ✓ Prepare materials for the Seminar.
- ✓ The above materials may be used for presentation at the coming seminar on May

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ As an instruction of Minister of MATE on November 28 in 2010 with respect to procedures of execution of the executive decree 07-300 for industrial wastewater monitoring, it is strongly recommended to increase the monitoring activities in this field.
- ✓ To continue sampling and analysis periodically in the river of El Harrach based on environmental monitoring program of the project.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ As discussed in the meeting held previously, please kindly prepare the revised SOP's accordance with our discussion. All of the SOP's will be finalized before May.
- ✓ Prepare the list of all certified standard.

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ To clarify the budget and the program to execute internal training of ONEDD-CRL in 2011.
- ✓ In order to raise the level of technology in the regional laboratory and monitoring stations, hold a meeting for implementation of internal training in ONEDD-CRL when necessary.
- ✓ Regarding the joint seminar and workshop in April 2011, prepare materials of presentation in the field of waste or on-going activities of environmental monitoring in the river of El Harrach.

5. Next stay and necessary actions to be taken by ONEDD/CRL during absence of JET

- ✓ Next visit of JET will be from the middle of May until the end of June 2011.
- ✓ To communicate with JET by email or Skype during absence of JET.
- ✓ To present the annual (2011) plan of ONEDD by next visit of JET.

Recommendations by JET after the 6th work in 2011

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ Additional technical transfer will be realized by Japanese expert after repair of P&T by Algerian side.

1.2 XRF

- ✓ Analyze As, Pb, etc; with different ROI, and confirm the calibration curve with different standard.
- ✓ Determine the sediment of river (Oued El Harrach), analyse sediment by XRF.
- ✓ Prepare SOPs by XRF.
- ✓ Read the documents and make a report about XRF.
- ✓ Prepare the documents for the next seminar in September

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ As promised in the agreement between l'ONEDD/CRL and Environmental Direction of Wilaya of Alger and Blida in 2009, l'ONEDD/CRL should start the environmental monitoring for Oued El Harrach river and Oued Smar river in June (or July) and in October 2011.
- ✓ Regarding reliability of analysis for Hg, l'ONEDD/CRL should proceed once again an analysis using the same sample in the upstream of Oued El Harrach river (two reference points, sampled in May 2010).
- ✓ ONEDD/CRL should collect all the effluents data of industry units in the model site, and make arrangement of the data according to the appropriate form based on orientation of JET before the end of September.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ Prepare and review all the certified standards
- ✓ Prepare the introduction of SOP document

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ Budget for internal training in 2011 should be clear according to the yearly program of ONEDD/CRL

Recommendations by JET after the 7th work in 2011

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ Repeat the analysis of certified reference materials, and compare the results with certified values and check the rate of recovery using internal standards.
- ✓ Repeat Blank test through the all process to calculate the detection limit

1.2 FTIR

- ✓ Regarding failure of FTIR, in order to proceed the final evaluation using FTIR, repair of FTIR system should be realized by Algerian side as soon as possible

1.3 XRF

- ✓ In order to determine the sediment of rivers (Oued El Harrach), analyze the sediment by XRF
- ✓ Determine the liquid sample by direct method (10µl） and indirect method (paper filter)
- ✓ Prepare manuals for preparation of liquid samples for XRF

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ To realize the 6th seminar (comprehensive interpretation and evaluation of risk in the model site) in February 2012, designated C/P personnel should prepare the presentation materials according to to the orientation of JET during June to November 2011

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ Prepare additional SOPs for equipments of the laboratory
- ✓ Prepare the documents files as mentioned in a declaration of the good practice of the laboratory (GLP)
- ✓ Start data collection for GLP documentation

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ Budget for internal training in 2012 should be clear according to the yearly program of ONEDD/CRL
- ✓ In order to realize an internal training for the regional laboratory in Constantine, organize the training program by JICA expert (for three days)

5. Final evaluation of the project in February 2012

- ✓ Prepare necessary documents in advance just like the previous final evaluation in phase-1 of the project.
- ✓ For verification of acquired technologies on GCMS, FTIR and XRF in the final evaluation in February 2012 (using known sample), repeat analysis to get a good result
- ✓ Prepare brief presentation by each personnel of CRL to present in the final evaluation

Recommendations by JET after the 8th work in 2012

1. Output 1: CRL acquires advanced analytic technique for GCMS, FTIR and XRF.

1.1 GCMS

- ✓ Repeat the analysis of certified reference materials until the error compared to the certified values become within 20 %, and check the rate of recovery using internal standards.
- ✓ Repeat blank test for sediment analysis through the all process to calculate Detection Limit.
- ✓ To repair a failure of FTIR, ONEDD should request a technical service from SHIMAZU Japan as soon as possible.

1.2 FTIR

- ✓ In order to manipulate FTIR and accumulate the knowledge of various chemical substances such as non-volatile organic compounds, repeat analysis of various samples.
- ✓ Revise an existing SOP on FTIR, which was already created in the course of training by JICA expert.

1.3 XRF

- ✓ To determine the river sediment (Oued El Harrach) and analyze such sediment by XRF.
- ✓ To determine the liquid sample by direct methods.
- ✓ For an effective use of XRF, consider developing an adequate method for XRF utilization.

2. Output 2: Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.

- ✓ To continue updating the data-base on monitoring data (industrial units and river) in the model site of Oued El Harrach basin.
- ✓ In order to publish a result of environmental monitoring in the model site, an official report should be created by ONEDD/CRL based on the result of comprehensive interpretation and risk assessment.
- ✓ An idea of risk assessment of environmental monitoring will be discussed in the meeting with the Director General of ONEDD and persons in charge of output-2 in the next visit of Japanese expert.

3. Output 3: CRL enhanced quality control capacity of lab analysis work.

- ✓ Prepare additional SOP for the basic equipments of the laboratory (purified water, rotary evaporator, weight, etc)
- ✓ Continue and prepare document files about the good laboratory practices (GLP)

4. Output 4: Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.

- ✓ Budget for internal training in 2012 should be provided according to the yearly program of ONEDD/CRL.
- ✓ In order to realize an internal training for the regional laboratory in Constantine and Oran, organize three days training program to distribute the printed SOP (ver1.01) by JICA expert.

Annex 6　Modification of PDM

Annex 6-1　PDM-1

PROJECT DESIGN MATRIX (PDM)
Project Name: Capacity Development of Environmental Monitoring （Phase 2）
Implementing Agency: ONEDD
Cooperating Organizations: DEWA and DEWB
Supporting Organization**:** MATET
Project Period: October 2009 to October 2012 (3 years)
Target Group: Staff of ONEDD (CRL and ONEDD Headquarters)
Project Area: Alger, Blida, Oran Constantine Province
Model Site: OEH basin in Alger and Blida Provinces and coastal area in Alger Province

Date: March 18, 2009

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal ONEDD establishes environmental monitoring system based on the National Environmental Strategy under the well-organized network of laboratories and stations where CRL plays a leading role.	1. Realization of national environmental monitoring system based on the National Environmental Strategy. 2. Establishment of National Environmental Database (SNIE) 3. CRL plays a role of the reference environmental laboratory in Algeria.	1/2 Report of Environmental State of Algeria published by MATET 3.1 Record of supply of reference materials to other laboratories and stations 3.2 Record of technical support, consulting and training, to other laboratories and stations 3.3 Network with research institutes in Algeria 3.4 Accredit from international analytical association	
Project Purpose ONEDD's Capacity to generate environmental information for effective environmental management including inspection, enforcement and pollution prevention is strengthened.	1. The Central Regional Laboratory (Alger) is able to response to the requisition about the environmental monitoring from various clients 2. Number of disclosed information related environmental pollution is increased. 3. Number of effluent monitoring is increased.	1.1 Contracts with clients 1.2 Issued reports/bulletin 2.1 Issued reports/bulletin 2.2 Record of workshops 2.3 Web-site of ONEDD 3. Records of effluent monitoring	The Government of Algeria maintains the current proactive attitude toward environmental policy and its enforcement. The Government of Algeria continues and maintains to necessary supports to ONEDD.
Output 1 CRL acquires advanced analytic technique for GCMS, FTIR and XRF.	1. Reliable analytical results on hydrocarbon, organo-chlonine, BTX, PAH and agrochemicals (pesticides and insecticides) are generated using GCMS. 2. Reliable analytical results on non-volatile organic chemicals are generated	1/2/3 Records of analyses	Field survey and sampling in the Model Site can be carried out without any restriction. Industries and other polluters

	using FTIR and its data library. 3. Reliable results of quantitative XRF analysis are generated. 4. SOPs for advanced analytical methods for GCMS, FTIR and XRF are developed.	4. SOPs	are cooperative to project activities.
Output 2 Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.	1. Pollution inventories including pollution loads are developed. 2. Comprehensive monitoring plan including effluent monitoring plans is developed. 3. Collaborative effluent monitoring activities with DEWA and DEWB are conducted periodically. 4. Types/kinds of analysis parameters are increased. 5. Comprehensive interpretation and risk assessment of the monitoring results are publicized.	1. Pollution inventories 2. Comprehensive monitoring plan 3. Records of effluent monitoring activities 4. Records of analysis 5. Presentation documents, reports, publication	
Output 3 CRL enhanced quality control capacity of lab analysis work.	1. **More than ** staff** in CRL work for quality control for inorganic/organic/microbiological analysis. 2. **More than ** staff** in inorganic/ organic/ microbiological analysis section in CRL joined trainings on quality control. 3. Quality control system of analytic works is established in CRL.	1. Hearing from CRL 2. Training records 3.1 Hearing from CRL 3.2 QC reports and log books in CRL	
Output 4 Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.	1. Training team by ONEDD(HQ) and CRL is formulated. 2. Training plan for regional laboratories is developed. 3. Training courses for regional laboratories are conducted **by **times.** 4. Various stakeholders including industries, academics and NGOs participated in ONEDD-MATET-JICA Joint Seminar. 5. ** **staff** from regional laboratories and monitoring stations participated in workshops.	1. Hearing from ONEDD 2. Training plan 3. Training records 4.1 Records of joint seminars 4.2 Proceedings of the seminars 5. Records of workshops	

Activities for Output1 1. JET and CRL assess the baseline of the capacity for individual analytic technique of GCMS, FTIR and XRF. 2. JET transfers the advanced analytical technique for volatile organic compounds using GCMS to CRL. 3. JET transfers the advanced analytical technique for non-volatile organic compounds using FTIR to CRL. 4. JET transfers the advanced analytical technique for potentially toxic elements using XRF to CRL. 5. JET and CRL develop SOPs for advanced analytical methods for GCMS, FTIR and XRF.	**Input** **＜Input from JICA＞** 1. Short-term Experts (1) Leader /Environmental Management（Comprehensive Analysis, Risk Assessment, Lab Management) (2) GCMS (3) FTIR (4) XRF (5)Quality Control (6) Lecturers of seminars including Senior Advisor from JICA 2. Data library for FTIR 3. Standard materials for GCMS, FTIR, XRF	**Input** **＜Input from ONEDD＞** 1. Assigning C/P personnel 2. Buildings and Facilities 3. Office space for JICA experts and meetings 4. Facilities and services such as electricity, gas, water, telephone, internet access and furniture 5. Chemical and reagents for analysis 6. Operational and recurrent cost for the project activities of the Algerian side	ONEDD recruits and assigns necessary personnel. Necessary chemicals and reagents are imported.
Activities for Output2 1. CRL and JET develop pollution inventories in the Model Site with DEWA and DEWB. 2. CRL and JET develop comprehensive monitoring plans including effluent monitoring plans for the Model Site. 3. CRL implements effluent monitoring to pollution sources with DEWA and DEWB by following advice of JET. 4. CRL analyzes samples collected by monitoring activities by following advice of JET. 5. CRL conducts comprehensive interpretation and risk assessment of the monitoring results in the Model Site by following advice of JET. 6. CRL reports the results of the comprehensive interpretation and develops the suggestions to DEWA, DEWB and MATET by following advice of JET.			
Activities for Output3 1. JET and CRL assess the problems of quality control system of analytic works. 2. JET conducts trainings for quality control system of analytic works for CRL. 3. CRL develops quality control system of analytic works by following advice of JET.			

Activities for Output4 1. JET reviews in-house training system of ONEDD and makes suggestions for improvement. 2. ONEDD develops the plans for supporting regional laboratories under the support of JET. 3. ONEDD organizes training courses for regional laboratories under the support of JET. 4. ONEDD and JICA Experts conduct ONEDD-MATET-JICA Joint Seminar and workshops periodically.			**Pre-conditions** Current level of security situation is maintained in the Project Area. Contract Agreements among ONEDD, DEWA and DEWB are concluded.

Annex 6-2　PDM-2

PROJECT DESIGN MATRIX (PDM)
Project Name: Capacity Development of Environmental Monitoring （Phase 2）
Implementing Agency: ONEDD
Cooperating Organizations: DEWA and DEWB
Supporting Organization**:** MATET
Project Period: October 2009 to October 2012 (3 years)
Target Group: Staff of ONEDD (CRL and ONEDD Headquarters)
Project Area: Alger, Blida, Oran Constantine Province
Model Site: OEH basin in Alger and Blida Provinces and coastal area in Alger Province

Date: November 11, 2009

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal ONEDD establishes environmental monitoring system based on the National Environmental Strategy under the well-organized network of laboratories and stations where CRL plays a leading role.	1. Realization of national environmental monitoring system based on the National Environmental Strategy. 2. Establishment of National Environmental Database (SNIE) 3. CRL plays a role of the reference environmental laboratory in Algeria.	1/2 Report of Environmental State of Algeria published by MATET 3.1 Record of supply of reference materials to other laboratories and stations 3.2 Record of technical support, consulting and training, to other laboratories and stations 3.3 Network with research institutes in Algeria 3.4 Accredit from international analytical association	
Project Purpose ONEDD's Capacity to generate environmental information for effective environmental management including inspection, enforcement and pollution prevention is strengthened.	1. The Central Regional Laboratory (Alger) is able to response to the requisition about the environmental monitoring from various clients 2. Number of disclosed information related environmental pollution is increased. 3. Number of effluent monitoring is increased.	1.1 Contracts with clients 1.2 Issued reports/bulletin 2.1 Issued reports/bulletin 2.2 Record of workshops 2.3 Web-site of ONEDD 3. Records of effluent monitoring	The Government of Algeria maintains the current proactive attitude toward environmental policy and its enforcement. The Government of Algeria continues and maintains to necessary supports to ONEDD.
Output 1 CRL acquires advanced analytic technique for GCMS, FTIR and XRF.	1. Reliable analytical results on hydrocarbon, organo-chlonine, BTX, PAH and agrochemicals (pesticides and insecticides) are generated using GCMS. 2. Reliable analytical results on non-volatile organic chemicals are generated	1/2/3 Records of analyses	Field survey and sampling in the Model Site can be carried out without any restriction. Industries and other polluters

	using FTIR and its data library. 3. Reliable results of quantitative XRF analysis are generated. 4. SOPs for advanced analytical methods for GCMS, FTIR and XRF are developed.	4. SOPs	are cooperative to project activities.
Output 2 Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.	1. Pollution inventories including pollution loads are developed. 2. Comprehensive monitoring plan including effluent monitoring plans is developed. 3. Collaborative effluent monitoring activities with DEWA and DEWB are conducted periodically. 4. Types/kinds of analysis parameters are increased. 5. Comprehensive interpretation and risk assessment of the monitoring results are publicized.	1. Pollution inventories 2. Comprehensive monitoring plan 3. Records of effluent monitoring activities 4. Records of analysis 5. Presentation documents, reports, publication	
Output 3 CRL enhanced quality control capacity of lab analysis work.	1. **More than 16 staff** in CRL work for quality control for inorganic/organic/microbiological analysis. 2. **More than 16 staff** in inorganic/ organic/ microbiological analysis section in CRL joined trainings on quality control. 3. Quality control system of analytic works is established in CRL.	1. Hearing from CRL 2. Training records 3.1 Hearing from CRL 3.2 QC reports and log books in CRL	
Output 4 Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.	1. Training team by ONEDD(HQ) and CRL is formulated. 2. Training plan for regional laboratories is developed. 3. Training courses for regional laboratories are conducted **by **times.** 4. Various stakeholders including industries, academics and NGOs participated in ONEDD-MATET-JICA Joint Seminar. 5. **** staff** from regional laboratories and monitoring stations participated in workshops.	1. Hearing from ONEDD 2. Training plan 3. Training records 4.1 Records of joint seminars 4.2 Proceedings of the seminars 5. Records of workshops	

Activities for Output1 1. JET and CRL assess the baseline of the capacity for individual analytic technique of GCMS, FTIR and XRF. 2. JET transfers the advanced analytical technique for volatile organic compounds using GCMS to CRL. 3. JET transfers the advanced analytical technique for non-volatile organic compounds using FTIR to CRL. 4. JET transfers the advanced analytical technique for potentially toxic elements using XRF to CRL. 5. JET and CRL develop SOPs for advanced analytical methods for GCMS, FTIR and XRF.	**Input** **＜Input from JICA＞** 1. Short-term Experts (1) Leader /Environmental Management（Comprehensive Analysis, Risk Assessment, Lab Management) (2) GCMS (3) FTIR (4) XRF (5)Quality Control (6) Lecturers of seminars including Senior Advisor from JICA 2. Data library for FTIR 3. Standard materials for GCMS, FTIR, XRF	**Input** **＜Input from ONEDD＞** 1. Assigning C/P personnel 2. Buildings and Facilities 3. Office space for JICA experts and meetings 4. Facilities and services such as electricity, gas, water, telephone, internet access and furniture 5. Chemical and reagents for analysis 6. Operational and recurrent cost for the project activities of the Algerian side	ONEDD recruits and assigns necessary personnel. Necessary chemicals and reagents are imported.
Activities for Output2 1. CRL and JET develop pollution inventories in the Model Site with DEWA and DEWB. 2. CRL and JET develop comprehensive monitoring plans including effluent monitoring plans for the Model Site. 3. CRL implements effluent monitoring to pollution sources with DEWA and DEWB by following advice of JET. 4. CRL analyzes samples collected by monitoring activities by following advice of JET. 5. CRL conducts comprehensive interpretation and risk assessment of the monitoring results in the Model Site by following advice of JET. 6. CRL reports the results of the comprehensive interpretation and develops the suggestions to DEWA, DEWB and MATET by following advice of JET.			
Activities for Output3 1. JET and CRL assess the problems of quality control system of analytic works. 2. JET conducts trainings for quality control system of analytic works for CRL. 3. CRL develops quality control system of analytic works by following advice of JET.			

Activities for Output4 1. JET reviews in-house training system of ONEDD and makes suggestions for improvement. 2. ONEDD develops the plans for supporting regional laboratories under the support of JET. 3. ONEDD organizes training courses for regional laboratories under the support of JET. 4. ONEDD and JICA Experts conduct ONEDD-MATET-JICA Joint Seminar and workshops periodically.			**Pre-conditions** Current level of security situation is maintained in the Project Area. Contract Agreements among ONEDD, DEWA and DEWB are concluded.

Annex 6-3　PDM-3

PROJECT DESIGN MATRIX (PDM)
Project Name: Capacity Development of Environmental Monitoring （Phase 2）
Implementing Agency: ONEDD
Cooperating Organizations: DEWA and DEWB
Supporting Organization**:** MATET
Project Period: October 2009 to October 2012 (3 years)
Target Group: Staff of ONEDD (CRL and ONEDD Headquarters)
Project Area: Alger, Blida, Oran Constantine Province
Model Site: OEH basin in Alger and Blida Provinces and coastal area in Alger Province

Date: April 13, 2011

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal ONEDD establishes environmental monitoring system based on the National Environmental Strategy under the well-organized network of laboratories and stations where CRL plays a leading role.	1. Realization of national environmental monitoring system based on the National Environmental Strategy. 2. Establishment of National Environmental Database (SNIE) 3. CRL plays a role of the reference environmental laboratory in Algeria.	1/2 Report of Environmental State of Algeria published by MATET 3.1 Record of supply of reference materials to other laboratories and stations 3.2 Record of technical support, consulting and training, to other laboratories and stations 3.3 Network with research institutes in Algeria 3.4 Accredit from international analytical association	
Project Purpose ONEDD's Capacity to generate environmental information for effective environmental management including inspection, enforcement and pollution prevention is strengthened.	1. The Central Regional Laboratory (Alger) is able to response to the requisition about the environmental monitoring from various clients 2. Number of disclosed information related environmental pollution is increased. 3. Number of effluent monitoring is increased. **4. Number of contract on industrial wastewater monitoring is increased.**	1.1 Contracts with clients 1.2 Issued reports/bulletin 2.1 Issued reports/bulletin 2.2 Record of workshops 2.3 Web-site of ONEDD 3. Records of effluent monitoring	The Government of Algeria maintains the current proactive attitude toward environmental policy and its enforcement. The Government of Algeria continues and maintains to necessary supports to ONEDD.
Output 1 CRL acquires advanced analytic technique for GCMS, FTIR and XRF.	1. Reliable analytical results on hydrocarbon, organo-chlonine, BTX, PAH and agrochemicals (pesticides and insecticides) are generated using GCMS. 2. Reliable analytical results on non-volatile organic chemicals are generated	1/2/3 Records of analyses	Field survey and sampling in the Model Site can be carried out without any restriction. Industries and other polluters

	using FTIR and its data library. 3. Reliable results of quantitative XRF analysis are generated. 4. SOPs for advanced analytical methods for GCMS, FTIR and XRF are developed.	4. SOPs	are cooperative to project activities.
Output 2 Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.	1. Pollution inventories including pollution loads are developed. 2. Comprehensive monitoring plan including effluent monitoring plans is developed. 3. Collaborative effluent monitoring activities with DEWA and DEWB are conducted periodically. 4. Types/kinds of analysis parameters are increased. 5. Comprehensive interpretation and risk assessment of the monitoring results are publicized.	1. Pollution inventories 2. Comprehensive monitoring plan 3. Records of effluent monitoring activities 4. Records of analysis 5. Presentation documents, reports, publication	
Output 3 CRL enhanced quality control capacity of lab analysis work.	1. More than 16 staff in CRL work for quality control for inorganic/organic/microbiological analysis. 2. More than 16 staff in inorganic/ organic/ microbiological analysis section in CRL joined trainings on quality control. 3. Quality control system of analytic works is established in CRL.	1. Hearing from CRL 2. Training records 3.1 Hearing from CRL 3.2 QC reports and log books in CRL	
Output 4 Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.	1. Training team by ONEDD(HQ) and CRL is formulated. 2. Training plan for regional laboratories **and monitoring stations** is developed. 3. Training courses for regional laboratories **and monitoring stations** are conducted by **twice a year.** 4. Various stakeholders including industries, academics and NGOs participated in ONEDD-MATET-JICA Joint Seminar. 5. **The workshops for regional laboratories are held as a dissemination of Project**	1.Hearing from ONEDD 2. Training plan 3. Training records 4.1 Records of joint seminars 4.2 Proceedings of the seminars 5. Records of workshops	

	contribution.		
Activities for Output1 1. JET and CRL assess the baseline of the capacity for individual analytic technique of GCMS, FTIR and XRF. 2. JET transfers the advanced analytical technique for volatile organic compounds using GCMS to CRL. 3. JET transfers the advanced analytical technique for non-volatile organic compounds using FTIR to CRL. 4. JET transfers the advanced analytical technique for potentially toxic elements using XRF to CRL. 5. JET and CRL develop SOPs for advanced analytical methods for GCMS, FTIR and XRF.	**Input** **＜Input from JICA＞** 1. Short-term Experts (1) Leader /Environmental Management（Comprehensive Analysis, Risk Assessment, Lab Management) (2) GCMS (3) FTIR (4) XRF (5)Quality Control (6) Lecturers of seminars including Senior Advisor from JICA 2. Data library for FTIR 3. Standard materials for GCMS, FTIR, XRF	**Input** **＜Input from ONEDD＞** 1. Assigning C/P personnel 2. Buildings and Facilities 3. Office space for JICA experts and meetings 4. Facilities and services such as electricity, gas, water, telephone, internet access and furniture 5. Chemical and reagents for analysis 6. Operational and recurrent cost for the project activities of the Algerian side	ONEDD recruits and assigns necessary personnel. Necessary chemicals and reagents are imported.
Activities for Output2 1. CRL and JET develop pollution inventories in the Model Site with DEWA and DEWB. 2. CRL and JET develop comprehensive monitoring plans including effluent monitoring plans for the Model Site. 3. CRL implements effluent monitoring to pollution sources with DEWA and DEWB by following advice of JET. 4. CRL analyzes samples collected by monitoring activities by following advice of JET. 5. CRL conducts comprehensive interpretation and risk assessment of the monitoring results in the Model Site by following advice of JET. 6. CRL reports the results of the comprehensive interpretation and develops the suggestions to DEWA, DEWB and MATET by following advice of JET.			
Activities for Output3 1. JET and CRL assess the problems of quality control system of analytic works. 2. JET conducts trainings for quality control system of analytic works for CRL. 3. CRL develops quality control system of analytic works by following advice of JET.			
Activities for Output4			**Pre-conditions**

1. JET reviews in-house training system of ONEDD and makes suggestions for improvement. 2. ONEDD develops the plans for supporting regional laboratories **and monitoring stations** under the support of JET. 3. ONEDD organizes training courses for regional laboratories **and monitoring stations** under the support of JET. 4. ONEDD and JICA Experts conduct ONEDD-MATET-JICA Joint Seminar and workshops periodically.			Current level of security situation is maintained in the Project Area. Contract Agreements among ONEDD, DEWA and DEWB are concluded.

Annex 7　Records of JCC

Annex 7-1 JCC on October 20, 2009

MINUTES OF MEETING
ON
THE INCEPTION REPORT FOR JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT FOR CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING
(PHASE 2)
IN
THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

AGREED UPON BETWEEN

THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Alger, 20th October 2009

Mr. Kenji FUKUSHIMA
Chief Advisor,
JICA Expert Team
Japan International Cooperation Agency (JICA)

Mr. Abdelkader BENHADJOUDJA
Chief of Minister's Cabinet,
Ministry of Land Planning, Environment and Tourism (MATET)
The People's Democratic Republic of Algeria

ع . بن حجوجة

رئيس الديوان

Mr. Tayeb HRECHE
Director General
National Observatory for Environment and Sustainable Development (ONEDD)

المدير العام بالنيابة

Attachment

In response to the official request of the Government of the People's Democratic Republic of Algeria (hereinafter referred to as "the Government of Algeria"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team. The Japanese side and the Algerian side came to an agreement on implementation of "The Project for Capacity Development of Environmental Monitoring (Phase 2)" (hereinafter referred to as "the Project") which was signed on 28th April 2009.

JICA sent to Algeria the JICA Expert Team (hereinafter referred to as "the JET") for the Project. The JET held a series of meetings with the Ministry of Land Planning, Environment and Tourism (hereinafter referred to as "MATET") and other authorities concerned on the Project. The list of those who attended these meetings is shown in ANNEX-1.

In the course of discussions, both sides confirmed the main items described below. The JET will proceed as planned up to September 2012, when the Project comes to the end.

Explanation of Inception Report

The JET submitted twenty (20) copies of the Inception Report to MATET on 19th October 2009 in accordance with the implementation arrangements agreed upon between the Government of Algeria and JICA on 28th April 2009.

The inception report was first presented by the JET to MATET and discussed on 19th October. In the presentation, Mr. Tireche TAYEB (Director General of ONEDD) chaired the sessions / meetings .

The JET presented the basic concept, outline and scope of the Project proposed in the Inception Report, including the technology transfer program proposed in the Project. Technical discussions were conducted between the JET and the counterpart members on each of the Project items, surveys and data required for the Project. The Inception Report was essentially prepared by the JET. This Inception Report will be revised based on the discussion between JET and Algerian side and must be validated by the next JCC meeting.

The Algerian side agreed on the contents of the Inception Report in principle, and promised close cooperation with the JET during the Project.

Major issues and the contents regarding the Inception Report are as follows;

1) Environmental monitoring agreement among DEWA, DEWB, and ONEDD will be prepared by the next JCC meeting, at last.
2) Environmental monitoring working group will be establish by the next JCC meeting, at last.
3) Revised counterpart lists have been presented by Algerian side as shown in Annex I, and Japanese side accepted this change.
4) More than one meeting of JCC must be held during every visit of JET to Algeria. Member list of JCC is shown in Annex II.

ANNEX I LIST OF INPUTS FROM THE ALGERIAN SIDE

1. LIST OF THE ALGERIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

The Algerian side allocates the following counterpart personnel for the Project.

(1) Project administrative management counterpart

1) Project Director

Mr. Abdelkader BENHADJOUDJA	Chief of Minister's Cabinet, MATET

2) Project Manager

Mr. Tayeb TIRECHE	Director General, ONEDD

3) Vice Project Manager

Mr. Berhoum Rachid	Director of Coordination and Programming of Laboratories and Monitoring Stations of ONEDD

(2) Technical counterpart

(CRL)

1) Mr. Mohamed MOALI	Interim Director of CRL
2) Mr. Omar HOUAS	Engineer
3) Mr. Mohamed LAKHDARI	Marine Ecologist
4) Ms. Leila,NECHAOUNI	Chemist
5) Mr. Mohamed SMAI	Assistant Technician
6) Ms. Radhia ANANE	Biologist
7) Ms. Amel TIBECHE	Hydrogeologist
8) Ms. Ouahiba BENSOUILAH	Ecologist
9) Ms. Hadda DJOGHLAF	Biologist
10) Ms. Sophia,AZOUANI	Chemical Engineer
11) Ms. Hanifa MEBREK	Microbiologist
12) Ms. Leila KIMRI	Chemical Engineer
13) Ms.Lynda GUERFI	Chemist
14) Ms.Fatima Zohma BOUADI	Chemist
15) Ms.Daouadji Nassima	Microbioloogy

(ONEDD(HQ))

1) Ms Assia CHATAL	Ecologist
2) Ms Salima OUSSALEM	Marine Ecologist
3) Ms Aoudjal Sarah	State Engineer in the Ocean Sciences
4) Ms Kamal Nawal	Licence in Translation

* Staff of DEWA and DEWB closely work together with the counterparts.
* ONEDD coordinates all seminar held in the Project. Seminar counterparts from MATET are assigned according to topics of seminars.

ANNEX II JOINT COORDINATING COMMITTEE

1. Organization

(1) Chairperson

Chief of Minister's Cabinet, MATET, as a Project Director

(2) Vice Chairperson

Director General, ONEDD

(3) Members

The Algerian side

- MATET
- ONEDD Headquarters
- ONEDD Central Regional Laboratory (Alger) (CRL)
- ONEDD West Regional Laboratory (Oran)
- ONEDD East Regional Laboratory (Constantine)
- DEWA
- DEWB
- Other Related Ministries and Organizations if necessary

JICA side

- JICA experts
- Representatives of JICA Headquarters

Others

- Ministry of Foreign affairs of Algeria, JICA Project Formulation Advisor and the Embassy of Japan in Algeria may attend the JCC as observer(s), when necessary.

2. Functions

(1) To formulate the annual operational work plan of the Project based on the tentative schedule of implementation within the framework of the Record of Discussions (R/D),

(2) To review the overall progress and achievements of the Project,

(3) To examine major issues arising from or in connection with the Project, an

(4) To work out the modification of activities depending on the necessity.

ANNEX III LIST OF ATTENDANCE TO THE MEETING

Date : 18-10-2009, am9:30 Venue: CRL meeting room

Benhadjoudja Abdelkader	MATET / Chef de Minister's Cabinet
Berhoum Rachid	MATET / Program Direcor
Tereche Tayeb	MATET / Director General
Kenji Fukushima	JET/Chief Adviser
Hiromi Nonaka	JET / Coordinator
Tomoko Fukaya	JET / GCMS
Ryo Ishimoto	JET / sub-leader/Quality Control
Masamichi Tsuji	JET / FTIR
Eriko Tamura	JICA Senior Program Officer
Yoshida Mitsuo	JICA Senior Advisor
HOUARI Mohamed	JICA / Interpreter

Date : 18-10-2009, am Venue: CRL meeting room

LAKHDARI Mohamed	Section échantillonnage
AZOUANI Sophia	Section inorganique
DJOGHLAF Hadda	Section microbiologique Section & organique
BENSOUILAH Ouahiba	Section organique
MEBREK Hanifa	Section microbiologique Section & organique
TIBECHE Amel	Section organique
KIMRI Leila	Section organique
DAOUADJI Nassima	Section microbiologique
BOUADI Fatima Zohra	Section organique
ABDALLAH Ahlem	Agent .admin
KAMEL Nawel	Chargée de l'administration
Moali mohamed	Directeur laboratoire
NECHAOUNI Leila	GCMS / FTIR
ANANE Radia	NTK/F-/CN-
SMAI Mohamed	Section échantillonnage
GUERFI Lynda	Section inorganique
REMINI Louisa	Assist. admin
NEKMOUCHE Lynda	Section organique
HOUAS Omar	Section inorganique
Kenji Fukushima	JET/Chief Adviser
Hiromi Nonaka	JET / Coordinator
Tomoko Fukaya	JET / GCMS
Ryo Ishimoto	JET / sub-leader/Quality Control
Masamichi Tsuji	JET / FTIR
Eriko Tamura	JICA Senior Program Officer
Yoshida Mitsuo	JICA Senior Advisor
HOUARI Mohamed	JICA / Interpreter

Date : 18-10-2009, pm Venue: CRL meeting room

Tireche Tayeb	DG /ONEDD
Houari Mohamed	Interprète / JICA
Hiromi Nonaka	JET / Cordinator
Kenji Fukushima	JET/Chief Adviser
Tomoko Fukaya	JET / GCMS
Ryo Ishimoto	JET / sub-leader/Quality Control
Masamichi Tsuji	JET / FTIR
Eriko Tamura	JICA / Senior Program Officer
Moali Mohamed	LRC / Interim Directeur
Houas Omar	LRC / Section inorganique
NECHAOUNI Leila	LRC / Section organique
TIBECHE Amel	LRC / Section organique
AZOUANI Sophia	LRC / Section inorganique
DAOUADJI Nassima	LRC / Section microbiologique
MEBREK Hanifa	LRC / Section microbiologique Section & Organique
KIMRI Leila	LRC / Section organique
Yoshida Mitsuo	JICA Senior Advisor
HOUARI Mohamed	JICA / Interpreter

Date : 19-10-2009, am Venue: CRL meeting room

Bouaoumeur	Directeur Environnement
Hammouda Rachid Fethi	Directeur Environnement (Blida)
Moali Mohamed	Directeur LRC ONEDD
Khelifi Fatiha	Directeur Environnement (Alger)
Tireche Tayeb	DG /ONEDD
Berhoum Rachid	Directeur des laboratoires (ONEDD)

Kenji Fukushima	JET/Chief Adviser
Hiromi Nonaka	Cordinator /JICA
Tomoko Fukaya	JET/GCMS
Ryo Ishimoto	JET/sub-leader/Quality Control
Masamichi Tsuji	JET / FTIR
Eriko Tamura	JICA / Senior Program Officer
Yoshida Mitsuo	JICA Senior Advisor
HOUARI Mohamed	Interpreter

Date : 19-10-2009, pm Venue: CRL meeting room

Bouaoumeur	Directeur Environnement
Hammouda Rachid Fethi	Directeur Environnement (Blida)
Moali Mohamed	Directeur LRC ONEDD
Khelifi Fatiha	Directeur Environnement (Alger)
Tireche Tayeb	DG / ONEDD
Berhoum Rachid	Directeur des laboratoires (ONEDD)
Kenji Fukushima	JET / Chief Adviser
Hiromi Nonaka	JET / Cordinator
Tomoko Fukaya	JET / GCMS
Ryo Ishimoto	JET / sub-leader/Quality Control
Masamichi Tsuji	JET / FTIR
Eriko Tamura	JICA Senior Program Officer
Yoshida Mitsuo	JICA Senior Advisor
HOUARI Mohamed	JICA / Interpreter

Annex 7-2 JCC on November 11, 2009

MINUTES OF MEETING
ON
1st JOINT COORDINATION COMMITTEE
ON
THE INCEPTION REPORT FOR JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT FOR CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING
(PHASE 2)
IN
THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

AGREED UPON BETWEEN

THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
AND
JICA EXPERT TEAM

Alger, 11th November 2009

Mr. Kenji FUKUSHIMA
Chief Advisor,
JICA Expert Team
Japan International Cooperation Agency (JICA)

Mr. Abdelkader BENHADJOUDJA
Chief of Minister's Cabinet,
Ministry of Land Planning, Environment and Tourism (MATET)
The People's Democratic Republic of Algeria

Mr. Tayeb TIRECHE
Director General
National Observatory for Environment and Sustainable Development (ONEDD)

T. TIRECHE

Attachment

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JICA sent to Algeria the JICA Expert Team (hereinafter referred to as "the JET") for the Project. The JET held a series of meetings with the Ministry of Land Planning, Environment and Tourism (hereinafter referred to as "MATET") and other authorities concerned with the Project.

In the course of discussions, both sides confirmed the main items described below. The JET will proceed as planned up to September 2012, when the Project comes to the end.

Explanation of Inception Report

The JET submitted twenty (20) copies of the Inception Report to MATET on 19th October 2009 in accordance with the implementation arrangements agreed upon between the Government of Algeria and JICA on 28th April 2009.

The inception report was first presented by the JET to MATET and discussed on 19th October. In the presentation, Mr. Tireche TAYEB (Director General of ONEDD) chaired the sessions / meetings .

The JET presented the basic concept, outline and scope of the Project proposed in the Inception Report, including the technology transfer program proposed in the Project. Technical discussions were conducted between the JET and the counterpart members on each of the Project items, surveys and data required for the Project. The Inception Report was essentially prepared by the JET. This Inception Report was revised based on the discussion between JET and Algerian side and was validated by the JCC meeting. The list of those who attended these meetings is shown in **ANNEX 1.**

The Algerian side agreed on the contents of the Inception Report in principle, and promised close cooperation with the JET during the Project.

Major issues and the contents regarding the Inception Report are as follows;

1) After discussion, both side accepted the Inception Report which was validated by the JCC as shown in **ANNEX 2.**
2) Environmental monitoring agreement was signed by DEWA, DEWB, and ONEDD was validated by the JCC as shown in **ANNEX 3.**
3) Environmental monitoring working group was established by the JCC as shown in **ANNEX 3.**
4) Revised PDM and PO have been prepared by JET and Algerian side was validated by JCC as shown in **ANNEX 4.**

ANNEX 1 : LIST OF PARTICIPANT IN 1st JOINT COORDINATION COMMITTEE

Algerian Side :

- MATET.
  - Mr. Abdelkader BENHADJOUDJA — Chef de Cabinet, MATET.
- Direction générale de l'ONEDD.
  - Mr. Tayeb TIRECHE — Directeur Général de l'ONEDD
  - Mr. Berhoum Rachid — Directeur de la Coordination et Programmation des Laboratoires et reseaux de Surveillance ONEDD.
- DEWAlger.
  - Mr. Tebbani Messaud — Directeur Environnement
- DEWBlida.
  - Mr. Benouameur Azzeddine — Directeur Environnement
- Laboratoire Régional Centre LRC Alger) de l'ONEDD.
  - Mr. Moali Moahamed — Directeur LRC
- Laboratoire Régional Est (LRE Constantine) de l'ONEDD.
  - Mr. Hamdi Amar — Directeur LRE
- Laboratoire Régional Ouest (LRO Oran) de l'ONEDD.
  - Mr. Mokhatari Samir — Directeur LRO

JICA Side

- Experts de la JICA (JET).
  - Mr.Kenji Fukushima — Chief Adviser
  - Mr.Ryo Ishimoto — Sub-leader/XRF/Quality Control
  - Ms.Hiromi Nonaka — Coordinator

ANNEX 2 : INCEPTION REPORT

ANNEX 3 : ENVIRONMENTAL MONITORING AGREEMENT BY DEWA, DEWB AND ONEED

LIST DE WORKING GROUP FOR ELABORATION OF ENVIRONMENTAL MONITORING PLAN

2 ingénieurs de la direction de l'environnement de la wilaya d'Alger
1 ingénieur de la direction de l'environnement de la wilaya de Blida
2 ingénieurs du Laboratoire Régional Centre

ANNEX I PROJECT DESIGN MATRIX (PDM)

Project Name: Capacity Development of Environmental Monitoring (Phase 2)

Implementing Agency: ONEDD Cooperating organizations: DEWA and DEWB Supporting Organization: MATET

Project Period: October 2009 to October 2012 (3 years)

Target Group: Staff of ONEDD (CRL and ONEDD Headquarters)

Project Area: Alger, Blida, Oran Constantine Province Model Site: OEH basin in Alger and Blida Provinces and coastal area in Alger Province

Date: November 3, 2009

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal ONEDD establishes environmental monitoring system based on the National Environmental Strategy under the well-organized network of laboratories and stations where CRL plays a leading role.	1. Realization of national environmental monitoring system based on the National Environmental Strategy. 2. Establishment of National Environmental Database (SNIE) 3. CRL plays a role of the reference environmental laboratory in Algeria.	1/2 Report of Environmental State of Algeria published by MATET 3.1 Record of supply of reference materials to other laboratories and stations 3.2 Record of technical support, consulting and training, to other laboratories and stations 3.3 Network with research institutes in Algeria 3.4 Accredit from international analytical association	
Project Purpose ONEDD's Capacity to generate environmental information for effective environmental management including inspection, enforcement and pollution prevention is strengthened.	1. The Central Regional Laboratory (Alger) is able to response to the requisition about the environmental monitoring from various clients 2. Number of disclosed information related environmental pollution is increased. 3. Number of effluent monitoring is increased.	1.1 Contracts with clients 1.2 Issued reports/bulletin 2.1 Issued reports/bulletin 2.2 Record of workshops 2.3 Web-site of ONEDD 3. Records of effluent monitoring	The Government of Algeria maintains the current proactive attitude toward environmental policy and its enforcement. The Government of Algeria continues and maintains to necessary supports to ONEDD.
Output 1 CRL acquires advanced analytic technique for GCMS, FTIR and XRF.	1. Reliable analytical results on hydrocarbon, organo-chlonine, BTX, PAH and agrochemicals (pesticides and insecticides) are generated using GCMS. 2. Reliable analytical results on non-volatile organic chemicals are generated using	1/2/3 Records of analyses	Field survey and sampling in the Model Site can be carried out without any restriction. Industries and other polluters are cooperative to project activities.

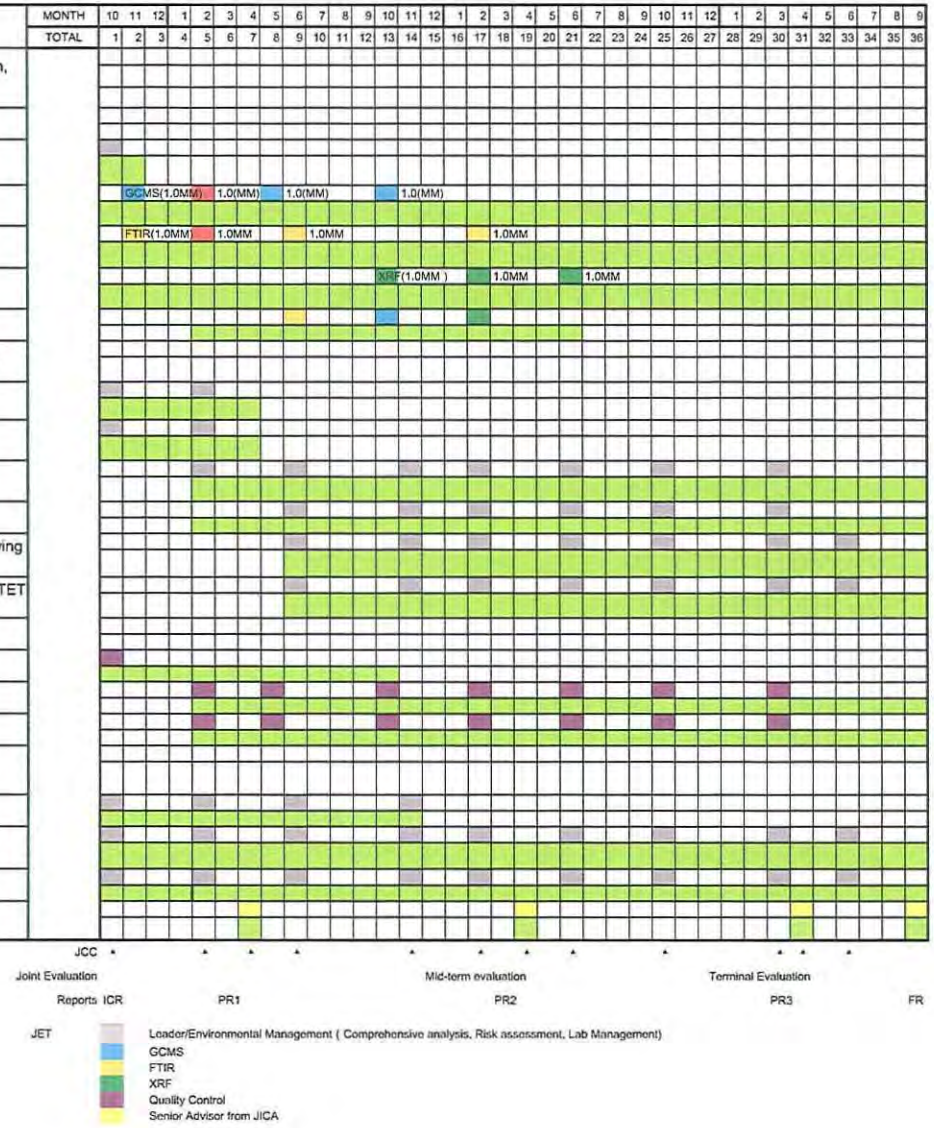
	FTIR and its data library. 3. Reliable results of quantitative XRF analysis are generated. 4. SOPs for advanced analytical methods for GCMS, FTIR and XRF are developed.	4. SOPs	
Output 2 Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including effluent monitoring in the Model Site.	1. Pollution inventories including pollution loads are developed. 2. Comprehensive monitoring plan including effluent monitoring plans is developed. 3. Collaborative effluent monitoring activities with DEWA and DEWB are conducted periodically. 4. Types/kinds of analysis parameters are increased. 5. Comprehensive interpretation and risk assessment of the monitoring results are publicized.	1. Pollution inventories 2. Comprehensive monitoring plan 3. Records of effluent monitoring activities 4. Records of analysis 5. Presentation documents, reports, publication	
Output 3 CRL enhanced quality control capacity of lab analysis work.	1. More than ** staff in CRL work for quality control for inorganic/organic/microbiological analysis. 2. More than ** staff in inorganic/ organic/ microbiological analysis section in CRL joined trainings on quality control. 3. Quality control system of analytic works is established in CRL.	1. Hearing from CRL 2. Training records Hearing from CRL 3.2 QC reports and log books in CRL	
Output 4 Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.	1. Training team by ONEDD(HQ) and CRL is formulated. 2. Training plan for regional laboratories is developed. 3. Training courses for regional laboratories are conducted by **times. 4. Various stakeholders including industries, academics and NGOs participated in ONEDD-MATET-JICA Joint Seminar. 5. ** staff from regional laboratories and	1.Hearing from ONEDD 2. Training plan 3. Training records 4.1 Records of joint seminars 4.2 Proceedings of the seminars 5. Records of workshops	

	monitoring stations participated in workshops.		
Activities for Output1 1. JET and CRL assess the baseline of the capacity for individual analytic technique of GCMS, FTIR and XRF. 2. JET transfers the advanced analytical technique for volatile organic compounds using GCMS to CRL. 3. JET transfers the advanced analytical technique for non-volatile organic compounds using FTIR to CRL. 4. JET transfers the advanced analytical technique for potentially toxic elements using XRF to CRL. 5. JET and CRL develop SOPs for advanced analytical methods for GCMS, FTIR and XRF.	**Input** **<Input from JICA>** 1. Short-term Experts (1) Leader /Environmental Management (Comprehensive Analysis, Risk Assessment, Lab Management) (2) GCMS (3) FTIR (4) XRF (5)Quality Control (6) Lecturers of seminars including Senior Advisor from JICA 2. Data library for FTIR 3. Standard materials for GCMS, FTIR, XRF	**Input** **<Input from ONEDD>** 1. Assigning C/P personnel 2. Buildings and Facilities 3. Office space for JICA experts and meetings 4. Facilities and services such as electricity, gas, water, telephone, internet access and furniture 5. Chemical and reagents for analysis 6. Operational and recurrent cost for the project activities of the Algerian side	ONEDD recruits and assigns necessary personnel. Necessary chemicals and reagents are imported.
Activities for Output2 1. CRL and JET develop pollution inventories in the Model Site with DEWA and DEWB. 2. CRL and JET develop comprehensive monitoring plans including effluent monitoring plans for the Model Site. 3. CRL implements effluent monitoring to pollution sources with DEWA and DEWB by following advice of JET. 4. CRL analyzes samples collected by monitoring activities by following advice of JET. 5. CRL conducts comprehensive interpretation and risk assessment of the monitoring results in the Model Site by following advice of JET. 6. CRL reports the results of the comprehensive interpretation and develops the suggestions to DEWA, DEWB and MATET by following advice of JET.			
Activities for Output3 1. JET and CRL assess the problems of quality control system of analytic works. 2. JET conducts trainings for quality control system of analytic works for CRL. 3. CRL develops quality control system of analytic works by following advice of JET.			

Activities for Output4 1. JET reviews in-house training system of ONEDD and makes suggestions for improvement. 2. ONEDD develops the plans for supporting regional laboratories under the support of JET. 3. ONEDD organizes training courses for regional laboratories under the support of JET. 4. ONEDD and JICA Experts conduct ONEDD-MATET-JICA Joint Seminar and workshops periodically.			**Pre-conditions** Current level of security situation is maintained in the Project Area. Contract Agreements among ONEDD, DEWA and DEWB are concluded.

ANNEX4-2 TENTATIVE PLAN OF OPERATION (November 9, 2009)

Project Name: Capacity Development of Environmental Monitoring (Phase 2)		
Project Purpose:ONEDD's Capacity to generate environmental information for effective environmental management including inspection, enforcement and pollution prevention is strengthened.		
Output 1:		CRL acquires advanced analytic technique for GCMS, FTIR and XRF.
	1-1	JET and CRL assess the baseline of the capacity for individual analytic technique of GCMS, FTIR and XRF.
	1-2	JET transfers the advanced analytical technique for volatile organic compounds using GCMS to CRL.
	1-3	JET transfers the advanced analytical technique for non-volatile organic compounds using FTIR to CRL.
	1-4	JET transfers the advanced analytical technique for potentially toxic elements using XRF to CRL.
	1-5	JET and CRL develop SOPs for advanced analytical methods for GCMS, FTIR and XRF.
Output 2		Quality of environmental monitoring capacity of CRL is upgraded through the environmental monitoring activities including inspection in the Model Site.
	2-1	CRL and JET develop pollution inventories in the Model Site with DEWA and DEWB.
	2-2	CRL and JET develop comprehensive monitoring plans including effluent monitoring plans for the Model Site.
	2-3	CRL implements effluent monitoring to pollution sources with DEWA and DEWB by following advice of JET.
	2-4	CRL analyzes samples collected by monitoring activities by following advice of JET.
	2-5	CRL conducts comprehensive interpretation and risk assessment of the monitoring results in the Model Site by following advice of JET.
	2-6	CRL reports the results of the comprehensive interpretation and develops the suggestions to DEWA, DEWB and MATET by following advice of JET.
Output 3		CRL enhanced quality control capacity of lab analysis work.
	3-1	JET and CRL assess the problems of quality control system of analytic works.
	3-2	JET conducts trainings for quality control system of analytic works for CRL.
	3-3	CRL develops quality control system of analytic works by following advice of JET.
Output4		Environmental monitoring technologies possessed by CRL are disseminated to other ONEDD regional laboratories, monitoring stations and other relevant organizations.
	4-1	JET reviews in-house training system of ONEDD and makes suggestions for improvement.
	4-2	ONEDD develops the plans for supporting regional laboratories under the support of JET.
	4-3	ONEDD organizes training courses for regional laboratories under the support of JET.
	4-4	ONEDD and JICA Experts conduct ONEDD-MATET-JICA Joint Seminar and workshops periodically.



Annex 7-3　JCC on June 22, 2010

MINUTES OF MEETING
ON
2nd JOINT COORDINATION COMMITTEE
ON
THE PROJECT FOR CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING
(PHASE 2)
IN
THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

AGREED UPON BETWEEN

THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
AND
JICA EXPERT TEAM

Alger, June 21st 2010

福嶋 健次

Mr. Kenji FUKUSHIMA
Chief Advisor,
JICA Expert Team
Japan International Cooperation Agency (JICA)

Mr. Abdelkader BENHADJOUDJA
Chief of Minister's Cabinet,
Ministry of Land Planning and Environment (MATE) in The People's Democratic Republic of Algeria

Mr. Tayeb TIRECHE
Director General
National Observatory for Environment and Sustainable Development (ONEDD)

Attachment

In response to the official request of the Government of the People's Democratic Republic of Algeria (hereinafter referred to as "the Government of Algeria"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team. The Japanese side and the Algerian side came to an agreement on the implementation of "The Project for Capacity Development of Environmental Monitoring (Phase 2)" (hereinafter referred to as "the Project") which was signed on April 28th 2009. Based on the R/D and M/M,

JICA sent to Algeria the JICA Expert Team (hereinafter referred to as "the JET") led by Mr. Kenji Fukushima to Algeria May 19th 2010 for the 2nd year's activities for the Project.

The annual plan has not been discussed in detail on June 21th in the Joint Coordination Committee (hereinafter referred to as "JCC"), The related document has been submitted the same day. The Algerian side appreciated to receive the annual plan prepared by JET. Both sides discussed the following items that have been agreed upon:

1- Progress of the plan of operation (PO), as shown in Annexe-1, has been prepared by JET and Algerian side, and was validated by JCC with following observations.
   - Because of mechanical trouble on FTIR equipment, theoretical training to the engineer of CRL has been conducted. Practice of analysis will be started soon after the reparation of equipment completed.
   - Regarding the organo-chlore, BTX, PAH and agrochemicals, only BTX application has been completed up to now. Because of adjustment of GCMS.
   - More practice should be done during work program in October 2010 and February 2011.

2- Based on the overall progress and achievements of the Project, both sides agreed that the activities under output 2, 3 and 4 should be implemented in a positive manner by Algerian side. Regarding output 4, it is an internal training program set by ONEDD within the framework of the level up of the engineers of the other regional laboratories and monitoring station.

3- In the course of discussions, both sides agreed upon the Annual Plan in 2010 which was validated by the JCC as shown in Annex2.

4- Regarding provision of reagents from Japan in 2010, JET confirmed that the Algerian side accepted to contribute actively in the process for the custom clearance of the imported reagents. Reagents necessary for the implementation of the Project is as listed in Annex3.

ANNEX

Annex 1 : Progress of the plan of operation (PO)

Annex 2 : Annual plan 2010

Annex3 : List of reagents provided by JICA in 2010

Annex4 : List of participants in 2nd JCC

Algerian side :

- MATE

- Direction Générale de l'ONEDD.

M. Tayeb TIRECHE	Directeur Général de l'ONEDD
M. Berhoum Rachid	Directeur de la Coordination et Programmation des Laboratoires et Réseaux de Surveillance de l'ONEDD.

- DEWAlger.

M. TEBBANI Messaoud	Directeur Environnement
Melle KHELIFI Fatiha	Ingénieur

- DEWBlida.

M. BENOUAMEU Azzedine	Directeur Environnement
M. HAMOUDA Fethi	Ingénieur

JICA side:

- Experts de la JICA.

M. Kenji Fukushima	premier conseiller de l'équipe d'experts de la JICA

- Mme KONAN Saori — coordonatrice / JICA