



Document Number: Manual 4

Document Title: Operators Work Instructions

Document Type: Manual

Revision	Date	Number of Pages	Revision / Amendment Description	Author	Checker	Approver
12	19/06/23	35	Removal of Paving Solutions. Update to ENV10. New reference ENV 25 – Flood & Drought Management. New ENV 26 Energy Efficiency	A Gilbert	Sust Team	M Clegg
11	01/03/21	35	Updates to ENV 03,04,04a,05,06,07,09,11,13, 15,16,18,19,20,21,23,24,25	A Gilbert	Sust Team	M Clegg
10	01/01/18	35	Updates to ENV 01a,b,c, ENV 07, ENV10	A Gilbert	Sust Team	P Fletcher
09	03/07/17	35	Update to ENV 06 and ENV 07	A Gilbert	Sust Team	P Fletcher
08	30/11/16	35	Inclusion of Flood & Drought Management Procedure ENV 26 and minor changes to ENV 04, ENV 05, ENV 06, ENV 07, ENV 12 and ENV 19	A Gilbert	Sust Team	P Fletcher
07	1/12/15	34	Inclusion of Paving Solutions Procedures ENV25	M Clegg	A Gilbert	P Fletcher
06	31/03/14	32	Procedures given unique version numbers to facilitate individual updates. Minor updates	A Gilbert	Sust. Team	P Fletcher
05	17/12/12		Landfill procedures added, modification to Env03	P Ferguson	Sust. Team	P Fletcher
04	05/10/11	26	Fourth Revision	P Ferguson	Sust. Team	P Fletcher
03	16/06/08	24	Third revision	P Ferguson	Sust. Team	A Spencer
02amd2	09/05/08	24	EWI Routine maintenance added to rules	P Richards	Sust. Team	A Spencer
02amd1	25/01/08	24	Environmental Work Instruction 1 re-written	Various	Sust. Team	A Spencer
02	15/10/07	35	Second revision	Various	Sust. Team	A Spencer
01	30/05/07	35	First revision	D Holden	J Wilson	A Spencer

ENVIRONMENTAL WORK INSTRUCTION INDEX

Work Instruction	No.	Applicable to		
		Concrete/Building Products/Cement Terminals/Clinker Grinding	Aggs and Asphalt	Admix
Cement to Silo Delivery Procedure	001a	Yes	No	No
Cement Delivery Procedure Exceptional Hours Delivery	001b	Yes	No	No
Cement Warehouse Tanker Delivery Procedure	001c	Yes	No	No
Cement Silo Inspection and Maintenance	002	Yes	No	No
Concrete Plant Water Management Procedure	003	Yes	No	Yes
Managing Waste Disposal Procedure	004	Yes	Yes	Yes
Receiving Hazardous (Special) Waste Procedure	004a	Yes	No	No
Pollution Prevention Delivery, Storage Use of Liquids Procedure	005	Yes	Yes	Yes
Emergency Spill Procedure	006	Yes	Yes	Yes
Dust Control Environmental Permit Compliance (Concrete)	007	Yes	No	No
Noise Prevention, Vehicles Plant and Machinery	008	Yes	Yes	Yes
Wildlife Pest and Weed Management	009	Yes	No	Yes
Environmental Footprint (EF) Tracker	010	Yes	Yes	Yes
Filler Deliveries/Discharge	011	No	Yes	No
Dust Prevention - Processing, Handling Storage and Transportation	012	No	Yes	No
Noise and Vibration Prevention - Blasting	013	No	Yes	No
Redundant Plant and Equipment	014	Yes	Yes	Yes
Preventing Water Pollution - Silt	015	No	Yes	No
Preventing Incidents - Site Intruders	016	Yes	Yes	Yes
Supervision of Contractors and Tenants	017	Yes	Yes	Yes
Biodiversity Protection and Enhancement	018	No	Yes	Yes
Management of Invasive Weeds and Plants	019	Yes	Yes	Yes
Water Management	020	No	Yes	Yes
Abatement Plant Inspection and Maintenance	021	No	Yes	No
Oil Interceptor Inspection and Maintenance	022	Yes	Yes	Yes
Waste Acceptance and Management Procedure at CEMEX Landfill & Restoration Sites	023	No	Yes	No
Waste Acceptance and Management Procedure at CEMEX Recycling Sites	024	Yes	Yes	No
Flood & Drought Management	025	Yes	Yes	Yes
Energy Efficiency	026	Yes	Yes	Yes

19/06/23	Rev 12	Sustainability Department	Various	Sust Team	M Clegg
Issued	Revision Description	Contact for Further Information	Author	Checker	Approver

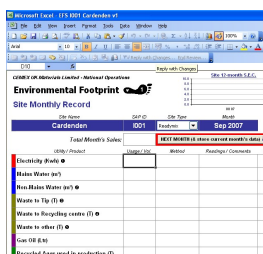




ENVIRONMENTAL WORK INSTRUCTION - ISSUE DATES

Work Instruction	No.	Revision Number	Issue Date
Cement to Silo Delivery Procedure	001a	10	01/01/18
Cement Delivery Procedure Exceptional Hours Delivery	001b	10	01/01/18
Cement Warehouse Tanker Delivery Procedure	001c	10	01/01/18
Cement Silo Inspection and Maintenance	002	6	31/3/14
Concrete Plant Water Management Procedure	003	7	01/03/21
Managing Waste Disposal Procedure	004	8	01/03/21
Receiving Hazardous (Special) Waste Procedure	004a	7	01/03/21
Pollution Prevention Delivery, Storage Use of Liquids Procedure	005	8	01/03/21
Emergency Spill Procedure	006	10	01/03/21
Dust Control Environmental Permit Compliance (Concrete)	007	11	01/03/21
Noise Prevention, Vehicles Plant and Machinery	008	6	31/3/14
Wildlife Pest and Weed Management	009	7	01/03/21
Environmental Footprint (EF) Tracker	010	11	19/06/23
Filler Deliveries/Discharge	011	7	01/03/21
Dust Prevention - Processing, Handling Storage and Transportation	012	7	30/11/16
Noise and Vibration Prevention - Blasting	013	7	01/03/21
Redundant Plant and Equipment	014	6	31/3/14
Preventing Water Pollution - Silt	015	7	01/03/21
Preventing Incidents - Site Intruders	016	7	01/03/21
Supervision of Contractors and Tenants	017	6	31/3/14
Biodiversity Protection and Enhancement	018	7	01/03/21
Management of Invasive Weeds and Plants	019	8	01/03/21
Water Management	020	7	01/03/21
Abatement Plant Inspection and Maintenance	021	7	01/03/21
Oil Interceptor Inspection and Maintenance	022	6	31/3/14
Waste Acceptance Procedures Landfill	023	7	01/03/21
Waste Acceptance Procedures-Recycling & Restoration Sites	024	7	01/03/21
Flood & Drought Management	025	2	19/06/23
Energy Efficiency	026	1	19/06/23

19/06/23	Rev 12	Sustainability Department	Various	Sust Team	M Clegg
Issued	Revision Description	Contact for Further Information	Author	Checker	Approver

ENVIRONMENTAL FOOTPRINT (EF) TRACKER

Purpose - To ensure that accurate energy, waste and water information is recorded monthly on EF Tracker to aid in targeting reductions in natural resources and energy use across CEMEX sites

	<p>EF Tracker data</p> <ul style="list-style-type: none"> The person with responsibility for collecting the data must be given adequate instruction to ensure that the correct meter readings and other relevant information can be obtained at the end of each month Meter readings should be taken as close to the end of production on the last working day as is possible. Monthly data from a metering service or invoice data will be used where available – site data will only be used where this is not available Monthly meter readings must be submitted to the person with responsibility for entering data into EF Tracker by the third working day of the month If any data is estimated, this should be recorded and action considered to minimise the need for estimation where possible Collated data should be submitted to the gb-eftracker@cemex.com email using the site specific data file. Please ensure that the data file name is not altered. Full instructions are available on the site EF Tracker files Utilities sub monitoring should be considered for particularly energy intensive equipment and for multi-disciplinary sites Please remember that the accuracy of EF Tracker data is incredibly important for all of our environmental reporting e.g. CEMEX Global reports, CO2 calculations, trade association data, responsible sourcing, ISO 14001 and ISO 50001 and Future In Action targets.
	<p>Electricity & Fuel data</p> <ul style="list-style-type: none"> Check that the data makes sense, electricity consumption should normally be within the range 1,000 - 10,000kWh per month for a typical concrete plant Where diesel or other liquid fuels are used these must be reported in EF Tracker (or Aspect for aggregate sites). Please ensure that where contractors are used for earth works the contractor fuel use is also reported monthly. Ensure that total electricity consumption is recorded; meters often show day and night rates as well as total consumption Energy efficiency and improving energy performance is a key aspect of our Future in Action commitments. (See ENV26 – Energy Efficiency)
	<p>Mains water data</p> <ul style="list-style-type: none"> Ensure that the water meter reading is reported correctly. There are many types of water meters, however they usually have a display which has 4-6 white digits and up to three red digits or rotary dials. It is the white digits which provide the reading in cubic metres Water data must also be sense checked prior to submission e.g. a concrete plant producing with no water usage cannot be correct All non-mains water used should be recorded, where this is not metered an estimate should be entered and action considered to minimise the need for estimation where possible
	<p>Tips to lower mains water consumption</p> <ul style="list-style-type: none"> Switch off water using equipment when not needed Carry out regular inspections to water systems and rectify any leaks. Fit timers or trigger nozzles to hose pipes Ensure that when filling truck mixer water tanks, the water is switched off once the tank is full, not allowed to overflow Ensure that wherever possible reclaimed water is used in preference to fresh water
	<p>Waste data</p> <ul style="list-style-type: none"> Data will be collected from the service provider where available, other waste data will need to be estimated unless delivery ticket information is available <ul style="list-style-type: none"> - An 8 wheeler tipper load of concrete wash waste weighs approx 20 tonnes - General waste such as wheelie bins or skips on average weighs 10% of the volume expressed as kg - e.g. the contents of a 240 litre wheelie bin weigh approx 24 kg - The site must add any ad-hoc waste in the appropriate section. <p>Tips to lower waste generation</p> <ul style="list-style-type: none"> Stone washing should be used in preference to washing out wherever feasible Waste segregation should be used to separate recoverable/ recyclable wastes from the general waste stream where practicable Minimise spillage and re-working

01/01/18	Rev 11	Sustainability Department.	Various	Sust Team	P Fletcher
Issued	Revision Description	Contact for Further Information	Author	Checker	Approver

FLOOD AND DROUGHT MANAGEMENT





Purpose - To ensure that reasonable precautions are taken to minimise impacts of floods and droughts.

	<p><u>Flood - Are you at Risk?</u></p> <p>Floods can happen at any time and any day. By taking action to prepare in advance for flooding, businesses can save on the cost of lost stock and movable equipment, as well as some of the trouble and stress that goes with such an event</p> <ul style="list-style-type: none"> Using the postcode for the site check if your site is at risk of flooding on the Gov.UK website - www.gov.uk/check-flood-risk If your site is shown to be at risk then sign up for Flood Warnings on the website www.gov.uk/sign-up-for-flood-warnings or by calling 0345 988 1188 Keep up to date with Live Flood warnings
	<p><u>Flood Plan</u></p> <p>If a flood is imminent or very likely, your main priority is to make sure that people are safe. There may be actions that you can be taken to prepare buildings and contents to minimise damage and post-flood repair and restoration costs. If your site is at risk of flooding then a Flood Plan could be developed. The Environment Agency Flood Plan template could be used to assist in this process. You should know:-</p> <ul style="list-style-type: none"> Contact details for key people? E.g. Internal Crisis Management, Water Company, Electric Company etc What are the key bits of property & equipment which need to be protected? E.g. computers, vehicles, chemicals & oils, electrical items, paper files, spill kits. What protective materials are available on site? E.g. sandbags, sheeting, boards, appropriate tools etc Where are the service shut off points? What actions will be taken in the event of a suspected flood eg use of sandbags and sheeting, moving drums and containers into buildings to prevent them floating away, moving key items to other plants not at risk? Has appropriate training been carried out to ensure actions can be completed safely?
	<p><u>Flood Resilience</u></p> <ul style="list-style-type: none"> Are there longer term flood resilience measures which can be taken? E.g. fitting non return valves on toilets and drains, locating chemicals and oils above the flood line, putting electrical sockets above the flood line, Elevating cabins and equipment, replacing items with flood resistant versions, purchasing flood protection equipment.
	<p><u>Drought Resilience</u></p> <p>In the event of drought conditions restrictions can be imposed on water abstractions and mains water usage. With increased risk of drought conditions then efficient use of water becomes even more important. We monitor and target improvements in mains water usage in EF Tracker. In order to maximise water efficiency we will continue to promote:-</p> <ul style="list-style-type: none"> Good water housekeeping e.g. turning off taps, fitting triggers to hoses, fixing leaks, use of truckclear Maximising rainwater capture and reuse – managing wash pits to ensure maximum rainwater storage capacity, add additional capacity with empty IBCs, stirred water tanks etc Adaptation and development of products e.g. use of admixtures to minimise water content <p>In the event of significant drought concerns then CEMEX could review provisions for wheel cleaning and dust suppression taking other compliance obligations into consideration and assist water companies in promoting best practice at home as well as at work.</p>

19/06/23	Rev 02	Sustainability Department.	Various	Sust Team	M Clegg
Issued	Revision Description	Contact for Further Information	Author	Checker	Approver

ENERGY EFFICIENCY

Purpose - To ensure that all activities undertaken are carried out considering energy efficiency and performance improvement. Local & process specific energy management operational procedures must also be followed.

	<p>Lighting</p> <ul style="list-style-type: none"> • Ensure lights are turned off when not needed • Ensure lighting is not left on all day, particularly outside lighting - use timer controls and sensors if fitted • Consider where additional PIR sensors and timers could help to minimise energy usage • Consider changes to LED lighting wherever possible as lights are replaced • Maximise the use of natural light wherever possible
	<p>Heating & Cooling</p> <ul style="list-style-type: none"> • Ensure heaters are turned off when not needed • Close doors & windows when the heating is on • Consider installing auto closing doors where appropriate • Consider thermostats and timers on heating & cooling equipment • Consider whether additional insulation or double glazing could be fitted – particularly when facilities are changed • Consider lowering thermostat temperatures • Consider differing thermostat settings for different seasons / times of day & night, weekends and holidays where possible • Consider isolating small areas as drying rooms rather than heating large rooms
	<p>Compressed Air</p> <ul style="list-style-type: none"> • Ensure that compressed air systems are checked regularly for leaks and that repairs are carried out promptly - compressed air is many times more expensive than electricity • Consider compressor management systems and auto shutoffs where appropriate • Consideration to be given, periodically, to size and age of compressors and the potential for cost effective replacement and improved energy performance • Ensure statutory inspections undertaken
	<p>Equipment Efficiency</p> <ul style="list-style-type: none"> • Advice to be sought from Engineering Team for new projects and for specifying plant and equipment e.g. equipment and motor sizing and appropriate IEC standard, new or replacement motor decisions, drives, generators etc. • When equipment is being replaced, use energy efficient alternatives whenever possible e.g. more modern / efficient motors • Ensure that electrical equipment is switched off when it is not in use or required, including large items such as conveyors and mixers and small items such as pumps and heaters • Consider the use of auto shut offs as appropriate e.g. on conveyors / compressors etc. • Ensure that start up and shut down protocols optimise energy usage • Optimise energy efficiency through regular maintenance, inspection, servicing and routine cleaning of plant & equipment • Optimise run times and equipment sequencing for energy efficiency as appropriate • Set timers and temperature controls for maximum efficiency for equipment with trace heating and bitumen storage • Utilise individual equipment efficiency monitoring data, where available, to identify opportunities for improvement • Operational staff will be trained and coached, as appropriate, for efficient operation of plant and equipment relevant to their roles • Enable the energy-saving features on all electrical equipment such as computers and copiers • Consider installing Power Factor Correction Equipment, where appropriate, which matches the load profile of the process plant and is maintained where equipment changes are made • Generators should be matched to demand and run time controlled during plant stoppages. Where possible, generators should be replaced with mains power. • Manage process heating burner temperatures at minimum effective settings • Any local energy management operational procedures must also be followed

19/06/23	Rev 01	Sustainability Department.	Various	Sust Team	M Clegg
Issued	Revision Description	Contact for Further Information	Author	Checker	Approver

ENERGY EFFICIENCY

	<p><u>Motor maintenance</u></p> <ul style="list-style-type: none"> • Ensure that motors are appropriately maintained to include effective <ul style="list-style-type: none"> ○ cleaning including associated equipment e.g. fans and fins free from debris ○ mechanical condition e.g. mountings tight & adequate ventilation ○ motor alignment with equipment shafts and pulleys ○ tension and condition of drive belts ○ oil seals and gearboxes - free from leaks • Ensure motors are routinely checked for abnormal noises and excessive heat.
	<p><u>Conveyors</u></p> <ul style="list-style-type: none"> • Ensure that conveyors are appropriately maintained • Ensure that conveyor rollers are in good order and clear of spillage • Consider effective conveyor belt cleaning • Ensure routine inspection and checks of belt tension
	<p><u>Mobile Plant</u></p> <ul style="list-style-type: none"> • Ensure that only suitably trained operators are permitted to drive mobile plant to ensure safe and efficient operation • Ensure that on board driver aids are used correctly and not disabled • Minimise engine idling time • Ensure that efficient excavation, lifting and loading practices are observed e.g. plant positioning, traction, bucket position, bucket angles etc. • Optimise operational areas, where possible, for the most efficient material movement and management e.g. move it once, move it for shortest time and on the lowest gradient • Equipment to be maintained and serviced in line with manufacturer's guidance e.g. tyre pressures for optimal operation and bucket teeth & edges maintained in good order etc • Consider whether machines are the right size for the right job • Ensure that haul roads & yards are maintained in good order and clear of excessive materials • Utilise individual machine efficiency data, where available, to improve efficiency
	<p><u>Pump Efficiency</u></p> <ul style="list-style-type: none"> • Pump efficiency can be improved through system design for example by:- <ul style="list-style-type: none"> ○ Oversizing the pipework diameter ○ Minimising the bends and valves ○ Use of multiple pumps in series or parallel ○ Optimising efficiency when setting up system ○ Using pump curves to identify efficient operating flowrates at differing heads ○ Correctly sized suction and discharge pipes for optimum efficiency • Pumps should be routinely serviced and maintained to:- <ul style="list-style-type: none"> ○ Avoid blocked suction, scavenging suction, damaged suction pipes, air leaks in the suction, worn impellers, incorrectly size discharge pipe, damaged or blocked discharge, water leaks on the discharge pipe etc ○ Ensure mesh / basket or filter on pump intakes are in place and clear
	<p><u>Continual Improvement</u></p> <ul style="list-style-type: none"> • Identify energy saving opportunities and make suggestions to your line manager or the Energy Team • Share best practice opportunities through the Ideation portal • Check site performance using monthly EF Tracker dashboard • Minimise base load when not producing – e.g. night times and out of hours • Consider opportunities to reduce reworking and cleaning up – right first time • Consider options for work planning to optimise energy usage • Consider opportunities for use of renewable energy sources • Ensure that contractors are also managing energy usage – included in contractor induction • Additional guidance can be found on the UK Sustainability SharePoint

19/06/23	Rev 01	Sustainability Department.	Various	Sust Team	M Clegg
Issued	Revision Description	Contact for Further Information	Author	Checker	Approver