

NCPC Industrial Efficiency Conference 2019

National Foundry Technology Network (NFTN) session
on competitiveness and compliance

Environmental compliance and performance improvement for foundries

Phase 1: Status Quo Assessment

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Background and need

- Preliminary review shows 182 foundries in South Africa
 - Iron, zinc, aluminium and bronze foundries
 - Various sizes, from extra extra small (XXS) through to extra small (XS), small (S), medium (M) and large (L).
- Many foundries not meeting environmental regulations
 - Several have been / are being closed for this reason
 - This has major environmental and socio-economic impacts
- Foundries closed due to permit requirements such as air and waste licenses and Environmental Authorisations under the National Environmental Management Act (NEMA).
- Very little is known about these compliance issues.

Overall aims of the compliance program

- Through a collaborative engagement, to assist foundries in achieving **environmental compliance**, **improved performance** and **increased competitiveness**, so that they can contribute optimally and responsibly to socio-economic development for South Africa.

Phased approach to assist foundries

- Phase 1: **Status Quo Assessment on environmental compliance** (6 months, to March 2020)
- Phase 2: **Environmental Management Program(s) to achieve agreed objectives** (from April 2020, 6-12 months)
- Phase 3: **Implementation plan with foundries** (approx 2 to 3 years)

Key principles

- **Collaborative** approach involving NFTN, foundries, key govt authorities such as DEA (now DEFF) and dti
- Assessment based on available information and the responses to the **survey questionnaire**
- Framed within wider context of better understanding the **economic value of foundries**
- Coordinated with survey to understand **energy efficiency** and carbon footprint → assist foundries in Carbon Tax reporting
- Feed into dti's high-level **industrial strategy** for foundries.

Benefits to foundries

- Several have been closed or are having closures enforced
- Intention of program is to create a better understanding of the foundry business, levels of compliance and economic contribution, and then negotiate agreements with the relevant authorities (e.g. DEA and provinces/metros) to give foundries (where necessary) a period of “leave from compliance” as they are being helped by the NFTN team to achieve acceptable levels of compliance.

Phase 1: Status Quo Assessment

Task 1: National inventory and stakeholder database

- Compile a national inventory of all foundries in South Africa (incl. geographic location, contact details)
- Compile a stakeholder database → updated through-out the project
- Develop the survey questionnaire → includes key features of the foundry, environmental compliance as well as the macro-economic and socio-economic role of foundries (and link to energy efficiency survey)
- Introductory session at monthly meetings of foundry institutes
 - South Africa Institute of Foundrymen (SAIF), Zinc ; International Zinc Association of South Africa (IZASA) ; Aluminium Federation of Southern Africa (AFSA) ; Bronze - BSA sector associations ; and any other associations that are identified as being relevant.

Phase 1: Status Quo Assessment

Task 2: Operational status & context

- Identify operational status of foundries on database (open/closed).
- Identify current environmental compliance (i.e. what environmental permits exist, reported compliance with the National Environmental Management Act and associated regulations) based on records with the authorities.
- Record regulatory spatial context of foundries (e.g. in area with designated environmental sensitivity, such as air quality management zone). Note: It may not be possible to provide a complete set of this information within the time allocated and this is seen as indicative information covering most foundries.
- Review how atmospheric emissions licenses (AELs) may vary depending on whether they are issued by provinces, district municipalities or metros.

Phase 1: Status Quo Assessment

Task 3: Compliance assessment and reporting

- Distribute Background Information Document (BID) on the survey
- Conduct surveys -- via institute meetings & one-on-one meetings with foundry managers, focused on foundries in Gauteng as well as KZN and WC.
- Source permits & monitoring reports from the foundries → this can include technical inputs on furnace type, furnace condition, operating procedures, associated emissions and wastes, associated licenses, compliance measures adopted, etc.
- Sourcing of relevant documents (permits, monitoring reports etc) from the foundries and/or relevant environmental authorities.
- Draft Status Quo Report on compliance levels.
- Feedback and discussion with key stakeholders (e.g. foundry institutes, authorities etc).
- Final Status Quo Report.

Task 3: Scope of survey and assessment

- Furnace type and operating procedures
- Annual production → in South Africa or exported?
- Amount of emissions (based on available data)
- Water and Waste management practices
- Types and categories of enviro licences and their appropriateness
- Measures taken by the industry towards compliance, and challenges faced.
- Compliance matrix will be used to summarise compliance patterns and the attendant risks.
- Compliance enforcement records at enforcing authorities to be examined and the practicality of the expected standards discussed.
- **Deliverable** → **Compliance Status Quo Assessment Report** highlighting key environmental issues, compliance challenges, and recommendations to improve compliance and to better align compliance requirements.

Phase 2: Environmental Management Program

- Develop EMP in collaboration with foundry bodies and relevant authorities. Actions to be informed by outcomes of Phase 1.
- Apply different modules of the EMP depending on the scale and type of the foundries.
- EMP to include monitoring and evaluation requirements such as for air quality.
- Provide guidance on reporting on carbon tax and energy consumption (that is required from mid-2019)

Phase 3: Implementation plan with foundries

- Capacity building across foundries
- Explore potential to negotiate with the authorities for a 3 to 5 years leave from compliance for foundries so they can be assisted by the NFTN team to achieve acceptable levels of compliance
- Roll-out of Environmental Management Program (EMPr)
- Assistance with reporting on carbon tax and energy consumption

Cautionary concern

- Industry is often cautious about environmental compliance projects, possibly because existing non-compliances may not have been detected → this can discourage involvement in the study.
- Benefit to foundries of being involved is the support in negotiations with authorities to reach reasonable compliance requirements and a time period to achieve compliance.

Overall aims of the compliance program

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