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PRIORITIES FOR AIR QUALITY MANAGEMENT FRATENITY – NW PROVINCE

PRESENTATION OUTLINE:

- 1. Ambient Air Quality Monitoring Network***
- 2. AEL and Compliance Monitoring***
- 3. AQMP Development (Province and District)***
- 4. NW 5-year programme summary***

NW READ AIR QUALITY MONITORING NETWORK

The NWPG air quality monitoring network is operated and maintained by C&M Consulting Engineers. The network is made up of seven stations, Damonsville, Jouberton, Lichtenburg, Mmabatho, Kanana, Khuma and Phokeng . The following pollutants are measured:

- *Sulphur dioxide (SO₂);*
- *Nitric Oxide (NO);*
- *Nitrogen dioxide (NO₂);*
- *Nitrogen oxides (NO_x);*
- *Particulate matter (PM_{2.5})*
- *Particulate matter (PM₁₀)*

Location of NWPG air quality monitoring stations





Data availability for NWPG AQMN stations

Station Name	Status	Priority Pollutants	January	February	March	April	May	June	July	August
Damonsville	Operational	SO ₂	70	68	95	99	60	67	71	87
Jouberton	Operational	PM10, PM2.5, SO ₂	98	90	75	100	100	100	87	90
Kanana	Operational	PM10, PM2.5, SO ₂ , NOx	37	0	69	59	77	83	71	83
Khuma	Operational	PM10, PM2.5, NOx	40	100	85	100	100	100	99	100
Lichtenburg	Operational	PM10, PM2.5, SO ₂	85	95	91	100	100	11	0	0
Mafikeng	Operational	PM10, PM2.5	99	69	99	100	100	100	99	99
Phokeng	Operational	SO ₂	18	49	89	95	100	94	74	80

Ambient Monitoring stations conti....

- *Rustenburg Local municipality have 3 monitoring stations namely Reagile, Boitekong and Marikana*
- *Some monitoring stations have **exceedences** based on that the location is either near **denuded land or untarred roads***
- *No data was recorded at Lichtenburg for the month of June, July and August 2016 due to severe **power interruption** but there is a plan in place to correct the situation*
- *From January to August 2016, 64% of the stations data recovery are 90% and above recovery limit.*
- ***Province is looking into expanding parameter measurements in other stations***



2. AEL and Compliance Monitoring

- *Licensing is only done by Province and Bojanala Platinum District Municipality*
- *16 AEL's were issued and 5 still outstanding*
- *17 inspections were done across the province*
- *7 pre compliance notices were instituted in line with NAEIS Regulations - 31st March 2016 was the facility reporting obligation deadline.*
- *21 fines were instituted against majorly diesel emissions, smoke and the least number of penalties issued for spray painting activities at Rustenburg*
- ***AELs will continue to be issued and compliance will be monitored and enforced.***



3. Air Quality Management Plan Development

- *NW Provincial AQMP successfully reviewed and is currently being implemented,.*
- *Dr Kenneth Kaunda District- council approved AQMP in May 2016 and implementation is underway*
- *Dr Ruth Segomotsi Mompati District Municipality – being developed – draft baseline*
- *Waterberg-Bojanala Priority Area AQMP- ITT has been formulated and the first meeting was been held on the 07th September 2016.*

NW AQMP 2015

Goals of NW AQMP 2015

Five (05) high level goals translated into objectives, targets and actions:

Actions are further broken down with responsibilities and timeframes.

Goal 1: To develop and maintain sound knowledge and information management that support governance of air quality in the NW Province

Goal 2: To reduce the negative impact of poor air quality on human health and environment

NW AQMP 2015

Goals of NW AQMP 2015 continues-----

Goal 3: To reduce the impacts of fossil fuels in residential applications

Goal 4: To address the effects of emissions from industrial sources

Goal 5: To quantify and reduce vehicular air emissions within the province.

NW AQMP 2015

Air Quality Management Problem Analysis for NW Province as identified in AQMP:

- *Air Quality Governance*
- *Air Quality Sources: including listed activities, controlled emitters, non-listed activities, agricultural sources, domestic fuel burning, transportation emissions, biomass burning, waste and waste treatment facilities*
- *Knowledge and information Management*

NW AQMP 2015

Air Quality Management Problem Analysis for NW Province as identified in AQMP continues.....

- *Air Quality Monitoring*
- *Air Quality Management Planning*

All these problems are broken down into problem analysis, problem causes, problem effects and problem objective which looks at solving the problem.



NW AQMP 2015

CHALLENGES AND IMPLEMENTATION STRATEGIES

- *No **emission factors** for different source in SA as such service provider(s) used those which they are familiar with.*
- ***Census 2011 stats seemed not reliable** – based on Stats 2001 as such correlation between the two became questionable*
- *Same story: **mining sources are not known** for one to do comprehensive inventory*
- *Most services provider find it difficult to do **modelling** of all sources – they only do for **point sources** which does not give true reflection of pollution*
- *Skills: **Lack of air quality skills**: both officials, and sometime service provider*



Implementation of intervention strategies

- *Conduct feasibility study on impact of Human Health Impacts of air quality within BPD area:*
- *Draw up SLA with privately owned monitoring stations to receive data*
- *Investigate and recommend possibility of adding monitoring stations: rely on outcome of model*
- *Identify non-listed sources of air pollution in the province*
- *Conduct compliance monitoring of both listed and non-listed activities*



Implementation cont.

- **Identify and register** all controlled emitters
- Ensure that **industries report all priority and criteria pollutants into NAEIS**
- Discuss **emission reduction measures** with individual companies that operate within the Province
- **Implement** short term emission reduction measures
- Ensure that industries report **dust fall** out in accordance to **National Dust Regulations.**



Implementation cont.

- READ also developed **NW EIR 2015** during the process of reviewing 2009 AQMP
- Seeing that modelling was not properly done READ partnered with PHD student who is doing modelling of all sources within Bojanala District, **Dispersion Model for BPDM (in accordance with Regs.) will be completed by March 2017**



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4. NW 5 Year Programme Summary

- NWP will continue maintain air quality monitoring network and fully equip it in terms of increasing parameters measured per station
- Atmospheric Emission Licensing
- Compliance and enforcement of AELs
- AQM awareness campaigns



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THANK YOU