

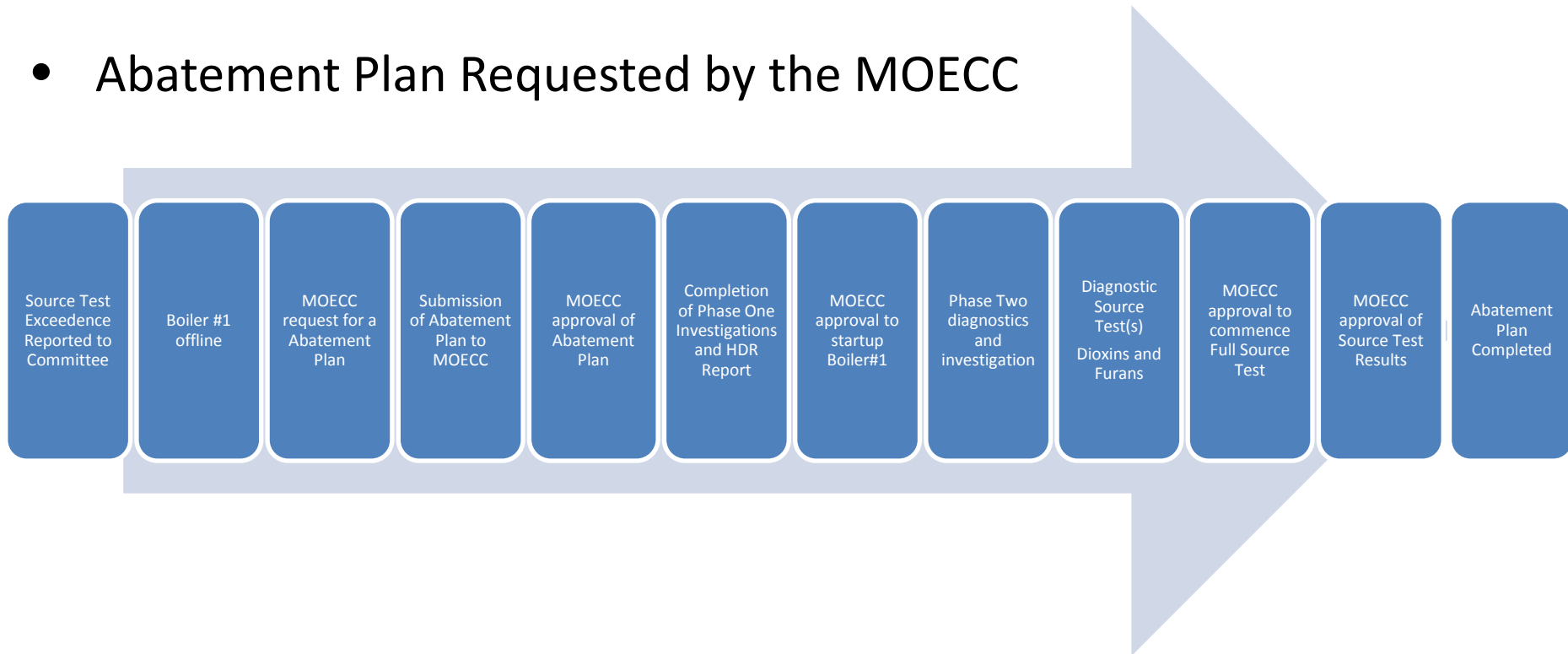
ABATEMENT PLAN

- Part of MOECC Compliance Policy:

Applying Abatement and Enforcement Tools

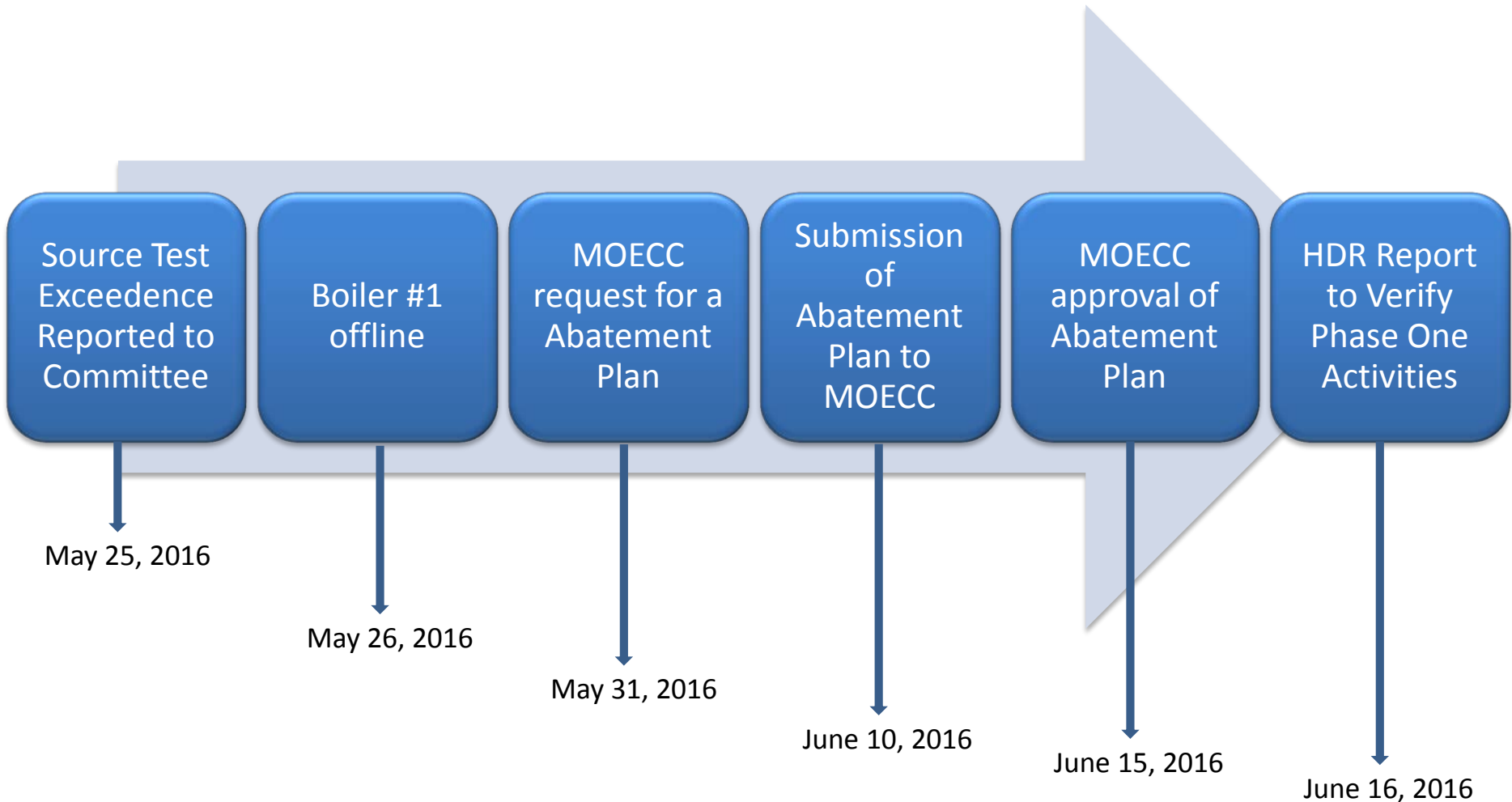
“At all times, staff will seek to work cooperatively and in a professional manner with the responsible person(s) to help address the impacts of a violation and to prevent its recurrence.”

- Abatement Plan Requested by the MOECC



ABATEMENT PLAN

Completed To Date



ABATEMENT PLAN

Yet To Complete

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graph LR; A[MOECC approval to startup Boiler#1] --> B[Phase Two diagnostics and investigation]; B --> C[Diagnostic Source Test(s) Dioxins and Furans]; C --> D[MOECC approval to commence Full Source Test]; D --> E[MOECC approval of Source Test Results]; E --> F[Abatement Plan Completed];
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MOECC approval to startup Boiler#1

Phase Two diagnostics and investigation

Diagnostic Source Test(s)
Dioxins and Furans

MOECC approval to commence Full Source Test

MOECC approval of Source Test Results

Abatement Plan Completed

Abatement Plan

- Schedule of Implementation
- Scope of Phase One (boiler offline)
- Scope of Phase Two (boiler online)
- Inspections, cleaning, maintenance, installation of equipment, SOP revisions, training, monitoring and testing
- Plan fulfilled when a successful Source Test has been completed

Potential Causes of Dioxin and Furan Emissions

Dioxin Furan emissions from Energy from Waste (EfW) facilities can be in solid (particulate) form or in a gaseous phase and can be “typically” traced to one of four main factors:

- Incomplete D&F destruction in the furnace;
- Reformation of D&F (also know as “De Novo Synthesis”), which can occur as the flue gases cool from 400°C to 250°C;
- Inadequate adsorption of the chlorinated compounds, including D&F on Powdered Activated Carbon (PAC) in the APC system; and,
- Breakthrough of D&F laden particulate through the baghouse.

HDR Technical Memo Phase One

- Observations of Phase One Activities
 - Confirmed the inspections were completed;
 - Confirmed ash was cleared from hoppers and collection points;
 - Performed independent observations and took independent photographs,
 - Confirmed that the corrective actions taken were appropriate;
 - Reviewed and commented on Covanta's new SOPs and verified that the SOPs have been implemented;
 - Reviewed training logs and verified that the TSSA licensed Chief Operator attested to the training; and
 - Reviewed Covanta's photographs documenting as-found and as-left equipment conditions.

Abatement Plan: Phase Two

<u>Testing</u>	<ul style="list-style-type: none">• baghouse,• outlet sample filters,• activated carbon properties,• carbon feed system
<u>Operations</u>	<ul style="list-style-type: none">• combustion,• ash discharger,• furnace draft,• slag, bed thickness, stable operation,• ash hoppers,• flop gates,• rotary valves,• soot blowing,• personnel communications
	Diagnostic Stack Test for Dioxins and Furans

Common to Phase One and Two

<u>Standard Operating Procedures</u> Develop or update	<ul style="list-style-type: none">• 2nd pass hopper air cannon• 2nd pass hopper levels• Hopper Plattco temperatures• IGR air nozzle pluggage monitoring• Hopper cleaning• Plugged nozzles in evaporator tower• Baghouse operation• Up/shutdown and Offline operation• Baghouse high hopper alarm response
<u>Training</u>	New SOP training
	Control Room Operator Training
	Operator Training – General