

2.3 Severe Accident Systems

2.3.1 Combustible Gas Control System

1.0 Description

The combustible gas control system (CGCS) prevents damage to the containment or emergency equipment, in the event of a severe accident with core degradation, by controlling the combustible gas concentration in containment.

The CGCS does not provide any safety related functions.

The CGCS provides the following non-safety related functions:

- Mixing of the containment atmosphere.
- Controlling combustible gases concentrations.
- Ensuring containment structural integrity by limiting the pressure to within the containment design pressure resulting from a combustible gas ignition from the most severe accident.

2.0 Arrangement

2.1 The location of the CGCS equipment is as listed in Table 2.3.1-1—CGCS Equipment Design.

3.0 Electrical Power Design Features

3.1 Mixing dampers listed in Table 2.3.1-1 fail open on loss of power.

4.0 Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.3.1-2—CGCS Inspections, Tests, Analyses, and Acceptance Criteria, specifies the inspections, tests, analyses, and acceptance criteria for the CGCS.

Table 2.3.1-1—CGCS Equipment Design

Equipment Description	Equipment Location
Passive Autocatalytic Recombiner (PAR) (One or more)	Pressurizer Area
PAR (One or more)	Reactor Cavity Area
PAR (One or more)	Containment Dome Area
PAR (One or more)	Steam Generator (SG) Loop 1 Area
PAR (One or more)	SG Loop 2 Area
PAR (One or more)	SG Loop 3 Area
PAR (One or more)	SG Loop 4 Area
PAR (One or more)	Reactor Coolant Pump (RCP) Loop 1 Area
PAR (One or more)	RCP Loop 2 Area
PAR (One or more)	RCP Loop 3 Area
PAR (One or more)	RCP Loop 4 Area
PAR (One or more)	Annulus Space Accumulator Tank Loop 3 (0° to 90°)
PAR (One or more)	Annulus Space Accumulator Tank Loop 4 (90° to 180°)
PAR (One or more)	Annulus Space Accumulator Tank Loop 4 (180° to 270°)
PAR (One or more)	Annulus Space Accumulator Tank Loop 4 (270° to 0°)
PAR (One or more)	Access Area (Equipment Hatch)
PAR (One or more)	Set Down Area Operating Floor
PAR (One or more)	Operating Floor Access
Mixing Damper	Reactor Coolant Loop 3 Area
Mixing Damper	Reactor Coolant Loop 4 Area
Mixing Damper	Reactor Coolant Loop 1 Area
Mixing Damper	Reactor Coolant Loop 2 Area
Rupture Disks and Convection Foils	SG Loop 1 and Loop 2
Rupture Disks and Convection Foils	SG Loop 3 and Loop 4

Table 2.3.1-2—CGCS Inspections, Tests, Analyses, and Acceptance Criteria			
	Commitment Wording	Inspection, Analysis or Test	Acceptance Criteria
2.1	The location of the CGCS equipment is as listed in Table 2.3.1-1.	An inspection will be performed of the location of the equipment listed in Table 2.3.1-1.	The equipment listed in Table 2.3.1-1 is located as listed in Table 2.3.1-1.
3.1	Mixing dampers listed in Table 2.3.1-1 fail open on loss of power.	Testing will be performed for the mixing dampers listed in Table 2.3.1-1 to fail open on loss of power.	Following loss of power, the mixing dampers listed in Table 2.3.1-1 fail open.