PROPOSING RESTRICTIONS ON

CERTAIN CHROMIUM(VI) OXIDES, OXYACIDS AND SALTS

CONSULTATION ON SEAC DRAFT OPINION

CETS - European Committee for Surface Treatment

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SUMMARY

Proposed Limits

Use Category	RO1	RO2	RO3
UC 1 | Formulation of mixtures	LV: 5 µg Cr(VI)/m3	LV: 1 µg Cr(VI)/m3	LV: 0.5 µg Cr(VI)/m3
	ELVair: 2.5 kg Cr(VI)/y	ELVair: 0.25 kg Cr(VI)/y	ELVair: 0.025 kg Cr(VI)/y
	ELVwater: 15 kg Cr(VI)/y	ELVwater: 1.5 kg Cr(VI)/y	ELVwater: 0.15 kg Cr(VI)/y
UC 2 | Electroplating on plastic substrate	LV: 1 µg Cr(VI)/m3	LV: 0.5 µg Cr(VI)/m3	LV: 0.1 µg Cr(VI)/m3
	ELVair: 2.5 kg Cr(VI)/y	ELVair: 0.25 kg Cr(VI)/y	ELVair: 0.025 kg Cr(VI)/y
	ELVwater: 15 kg Cr(VI)/y	ELVwater: 1.5 kg Cr(VI)/y	ELVwater: 0.15 kg Cr(VI)/y
UC 3 | Electroplating on metal substrate	LV: 5 µg Cr(VI)/m3	LV: 1 µg Cr(VI)/m3	LV: 0.5 µg Cr(VI)/m3
	ELVair: 2.5 kg Cr(VI)/y	ELVair: 0.25 kg Cr(VI)/y	ELVair: 0.025 kg Cr(VI)/y
	ELVwater: 15 kg Cr(VI)/y	ELVwater: 1.5 kg Cr(VI)/y	ELVwater: 0.15 kg Cr(VI)/y
UC 4 | Slurry coating operations	LV: 5 µg Cr(VI)/m3	LV: 0.5 µg Cr(VI)/m3	LV: 0.1 µg Cr(VI)/m3
	ELVair: 2.5 kg Cr(VI)/y	ELVair: 0.25 kg Cr(VI)/y	ELVair: 0.025 kg Cr(VI)/y
	ELVwater: 15 kg Cr(VI)/y	ELVwater: 1.5 kg Cr(VI)/y	ELVwater: 0.15 kg Cr(VI)/y
UC 5 | Other surface treatments	LV: 5 µg Cr(VI)/m3	LV: 0.5 µg Cr(VI)/m3	LV: 0.1 µg Cr(VI)/m3
	ELVair: 2.5 kg Cr(VI)/y	ELVair: 0.25 kg Cr(VI)/y	ELVair: 0.025 kg Cr(VI)/y
	ELVwater: 15 kg Cr(VI)/y	ELVwater: 1.5 kg Cr(VI)/y	ELVwater: 0.15 kg Cr(VI)/y
UC 6 | Functional additives/process aids	LV: 1 µg Cr(VI)/m3	LV: 0.5 µg Cr(VI)/m3	LV: 0.1 µg Cr(VI)/m3
	ELVair: 2.5 kg Cr(VI)/y	ELVair: 0.25 kg Cr(VI)/y	ELVair: 0.025 kg Cr(VI)/y
	ELVwater: 15 kg Cr(VI)/y	ELVwater: 1.5 kg Cr(VI)/y	ELVwater: 0.15 kg Cr(VI)/y

The alternative options (AO) are defined as follows:

- AO1: A harmonised LV at 1 µg Cr(VI)/m³ for all UCs with ELVs of 2.5 kg Cr(VI)/y for emissions to air and 15 kg Cr(VI)/y for emissions to water (i.e., similar to ELVs in RO1).
- AO2: A broad ban on use for all substances covered by this restriction proposal.
- AO3: A ban on functional uses of Cr(VI) substances with decorative character (all used in UC2).
- AO4: A broad ban on use with a transitional period of 10 years, without any mandatory transitional conditions (e.g. investment in additional RMMs). During opinion development, SEAC highlighted that it would have been useful to see a ban on use (maybe implemented through strict limit values) with **use-specific transition periods** as a restriction option and compared to the proposed restriction options. SEAC noted that it would be useful to be able to assess the logic of why the Dossier Submitter had discarded this as an option and focused on the proposed ROs instead. AO4 was prepared by the Dossier Submitter to address this request.
- AO5: Maximum release factors as an alternative way to demonstrate compliance instead of ELVs. This alternative option was added by the Dossier Submitter after the consultation on the Annex XV Dossier to address a concern raised by stakeholders. This is not an independent restriction option but a modification of the requirements of RO1/RO2. In this option, installations that cannot comply with the ELV for air emissions may alternatively demonstrate compliance with a MRF of 0.1 % (instead of 2.5 kg/Cr(VI)/year in RO1) or 0.01 % (instead of 0.25 kg/Cr(VI)/year in RO2).

GENERAL COMMENTS

CETS supports effective protection of workers and the environment from Cr(VI) and agrees that, where Union action is required, it should be coherent and harmonised. However, the SEAC Draft Opinion does not yet provide a sufficiently robust basis for selecting the proposed restriction design. The central shortcomings concern technical feasibility, transition periods, monitoring and enforcement, the treatment of alternatives, the cost-benefit analysis and, above all, the omission of impacts throughout the value chain.

The comments primarily concern UC2, UC3 and UC5. Many affected operators are job platers or specialised surface-treatment service providers. They process customer-owned parts under OEM, Tier I or Tier II specifications and normally cannot change the process, coating or performance standard unilaterally. The value enabled by the treatment is realised downstream in components, production continuity, repair and maintenance, spare parts and safety-critical applications. It is therefore not represented by the plater's turnover, margin or producer surplus. The acknowledged absence of an assessment of impacts up and down the supply chain is a structural gap, not a minor uncertainty. It prevents a complete evaluation of costs, proportionality, strategic autonomy and security of supply.

The evidence base is also fragile. The baseline assumes approximately 2,000 sites, although the number and distribution of sites, lines and exposed workers are uncertain. CfE responses are limited and cannot reliably represent highly heterogeneous activities. Data were collected under the authorisation regime but are used to model a theoretical post-authorisation baseline, while the socio-economic consequences of removing authorisation were not assessed. Central estimates should therefore be described as illustrative. The analysis should distinguish job platers, captive OEM operations, specialised repair providers and other industrial roles, and should map the downstream sectors served by each use.

Alternatives cannot be assessed at broad use-category level. Feasibility depends on substrate, geometry, coating thickness, hardness, wear and corrosion resistance, adhesion, dimensional tolerance, hydrogen embrittlement, repairability, customer specifications, industrial scale and qualification status. SEAC itself states that the information does not allow conclusions on the availability or technical and economic feasibility of alternatives at use, use-category or general level. Isolated successful substitutions must not be extrapolated to entire UCs. Cr(III) processes may present limitations in adhesion, hardness, corrosion and abrasion protection or throwing power and may require nickel underlayers, boric acid, new equipment or a new facility. Boric-acid-free solutions are not broadly demonstrated, and customer or OEM requalification can be lengthy. A listed technology is not a feasible alternative unless it delivers the required function, is customer-approved, available at industrial scale, economically viable and avoids regrettable substitution.

The transition period proposed in the Draft Opinion is not realistic. Compliance may require process and exposure assessment, engineering studies, design, procurement, installation, commissioning, monitoring, corrective action, permitting and customer qualification. Equipment suppliers, laboratories and occupational hygiene services cannot support the entire EU sector simultaneously within the proposed timeframe. Implementation therefore requires a substantially longer, staged approach, differentiated by restriction option, limit stringency, installation complexity, permitting needs and available qualified capacity. Even less stringent configurations require materially more time than proposed to design, install, commission and validate controls. More demanding worker and environmental limits need progressively longer preparation, starting from a harmonised and enforceable framework and followed by a feasibility review before tighter values apply. For the strictest options, technical and analytical feasibility has not been demonstrated, so no credible fixed transition can yet be identified. Transition design should follow verified implementation sequences rather than uniform deadlines. Time alone cannot create an alternative or compliance route where none exists; without a safeguard, an insufficient deadline becomes a delayed prohibition.

Risk management measures are site- and process-specific. Surface-treatment plants differ in chemistry, temperature, current density, tank geometry, ventilation, building layout, crane movement, part size, production volume and need for manual intervention. Automation and enclosure may work for repetitive, standardised lines but not necessarily for job plating, repairs, variable geometries, large parts or skilled non-routine tasks. Many companies already operate substantial controls under authorisation, OSH law, environmental permits and customer requirements, so the remaining improvement potential is uneven and sometimes limited. Engineering changes are iterative and may transfer burdens to wastewater, sludge, filters, hazardous waste, energy use or maintenance exposure.

Monitorability must be established before obligations apply. Binding EU-wide rules are needed for sampling, 8-hour TWA calculation, intermittent tasks, RPE, assigned protection factors, fit testing, measurement duration, values below the limit of quantification, analytical performance, Cr(VI) speciation, annual release calculations, batch and continuous operations, multiple emission points, reporting and enforcement. For values below 1 µg/m^3, analytical methods and laboratory capacity are limited. A value that requires artificially long or non-representative sampling is not operationally monitorable. The role of RPE is particularly important for necessary task-based operations where engineering controls cannot remove all exposure.

Air and water emissions require separate technical assessments. Water releases are governed by drag-out, rinsing, treatment chemistry and discharge arrangements; air releases depend on mist formation, temperature, current density, capture efficiency and operating hours. Absolute kg/year ELVs can penalise efficient high-throughput sites while allowing low-throughput sites with lower control efficiency to comply. A maximum release factor should therefore remain available as a complementary air-emission route under a harmonised methodology. A factor of 0.1 percent appears realistic for many efficient sites; 0.01 percent may be achievable only by some. This option could prevent closure or relocation while maintaining strong control performance.

The RAC proposal, combining a worker LV of 0.1 µg/m^3 not to be exceeded on any day, air emissions of 0.25 kg/year, water emissions of 0.15 kg/year and only temporary reliance on RPE, would be technically unachievable for many operations. It would require extensive ventilation, enclosure, automation, abatement and treatment upgrades, yet compliance would remain uncertain for manual and non-routine tasks. Its likely effects include discontinuation, relocation and loss of specialised EU capacity.

The cost-benefit and proportionality conclusions require revision. Reported costs are about €1.59 billion for RO2 against benefits of about €1.08 billion, and €4.72 billion for RO3 against

benefits of about €1.30 billion over 20 years, before unquantified value-chain impacts. Benefits correspond to modelled statistical cancer cases avoided: 64 for RO1, 195 for RO2 and 234 for RO3 over 20 years, not observable or individually attributable cases. The assessment should stress-test lower baseline exposure, dose-response uncertainty, latency, relocation and risk transfer. It should also distinguish benefits from improved controls from apparent benefits caused by closure or redundancy. Environmental abatement costs rise sharply from RO2 to RO3, while incremental general-population benefits are limited.

Finally, the opinion does not compare restriction adequately with authorisation, OSH and CMRD, IED and BAT or combined approaches. Authorisation has shortcomings, but it provides review periods, use-specific conditions and a safeguard where alternatives are not feasible. Replacing it with fixed values and deadlines has substantive consequences that were not assessed. CETS requests a comparative regulatory assessment, harmonised implementation rules available before application, realistic staged transitions, an MRF route for efficient sites, a complete value-chain assessment and a formal review or safeguard mechanism equivalent in function to an authorisation review period. Until these elements are addressed, RO2 should not be described as robustly proportionate, and RO3, the RAC proposal and stricter combinations should not be considered practical or proportionate for the surface-treatment sector.

QUESTION 1

Indicate which UC(s) from the list below your overall comment(s) relate to.

- UC2
- UC3
- UC5

UC2;UC3;UC5

QUESTION 2

To which sector(s) does your organisation belong to? (use ; to separate)

Automotive and transport; Aerospace; Aviation and Defence; Mechanical engineering and machinery; Hydraulics and Fluid Systems; Metal and Steel Industry; Construction and Civil Engineering; Mining and Earthmoving; Marine and Offshore; Energy and Power Generation; Oil, Gas and Petrochemical; Chemical Industry; Plastics, Rubber and Materials Processing; Paper, Printing and Converting; Textile and Ceramics; Food and Beverage; Pharmaceutical and healthcare; Cosmetics and Personal Care; Household Appliances and Consumer Goods; Sanitary, Bathroom and Kitchen Equipment; Furniture and Interior Products; Precision Engineering and Tooling; Packaging; Electronics and Electrical Equipment; Heating and Thermal Systems; Agriculture and Forestry; Architecture and Building Fittings; Maintenance and Industrial Services; Cable Transport Systems; Other.

QUESTION 3

Please comment on the proposed transition period of 18 months in relation to the different options assessed by SEAC. For each of the options below, respond to the following: Is this transition period feasible for you with regard to limit value for workers (LV) and emission limit values (ELVs)? if not, please indicate which limit value is most problematic (i.e. LV and/or ELV) and specify a more realistic duration of the transition period. Please provide a clear justification and evidence to underpin your answers separately for RO2 (see table 4 in section 3.4.2 of the SEAC draft opinion)

An 18-month transition is not feasible for RO2. Compliance may require plant assessment, engineering design, procurement, installation, commissioning, monitoring, permit variation and customer or OEM qualification. These sequential steps, and the limited capacity of equipment suppliers, laboratories and authorities, cannot be completed across the sector in 18 months.

The most problematic limit depends on the installation. The worker LV is critical for open or semi-open tanks, hard chromium plating, large or variable parts, loading, bath adjustment, maintenance, cleaning and repair. Automation or enclosure is not a general solution for job platers and low-volume or skilled manual work. Air and water ELVs also require different

controls. Absolute annual mass limits may penalise efficient high-throughput sites, so RO2 should include a harmonised maximum release factor route.

At least 60 months are required, with staged process mapping, feasibility assessment, engineering and permitting, procurement, commissioning, verification and customer qualification. Longer periods and a formal review are needed where major structural works or qualification are required. The transition should begin only after EU rules for sampling, RPE, assigned protection factors, measurement duration, limits of quantification and release calculation are available. Where no technically and economically feasible compliance or substitution route exists, a fixed deadline merely delays closure or relocation; an authorisation-equivalent safeguard is therefore necessary.

QUESTION 4

Please comment on the proposed transition period of 18 months in relation to the different options assessed by SEAC. For each of the options below, respond to the following: Is this transition period feasible for you with regard to limit value for workers (LV) and emission limit values (ELVs)? if not, please indicate which limit value is most problematic (i.e. LV and/or ELV) and specify a more realistic duration of the transition period. Please provide a clear justification and evidence to underpin your answers separately for RO3 (see table 4 in section 3.4.2 of the SEAC draft opinion)

An 18-month transition is not feasible for RO3, and technical and economic feasibility is not demonstrated for a significant part of the sector. RO3 combines very stringent worker and environmental limits. The Annex XV material indicates substantial RMM investment for most users and that about 30 percent of respondents could cease Cr(VI) operations, showing that this is a potential discontinuation scenario rather than a routine upgrade.

The worker LV is especially problematic for manual, task-based and non-routine operations, large or variable parts and job plating, where automation and enclosure may be impossible. Air and water ELVs are equally challenging and depend on different process parameters. Compliance could require redesign of ventilation, tanks and handling, enclosure, automation, advanced abatement, wastewater upgrades, building works, new monitoring and permit changes. SEAC also recognises limited analytical methods and service capacity for stricter values.

RO3 should not be retained without use-specific proof of a viable compliance or substitution pathway. If retained, complex installations require more than 120 months, staged implementation, harmonised EU rules on sampling, RPE, assigned protection factors and limits of quantification, assessment of supplier and laboratory capacity, customer qualification time and a formal feasibility review. A safeguard is essential for uses without feasible alternatives. Otherwise RO3 is likely to cause closure, relocation, import dependency and loss of EU capability rather than orderly risk reduction.

QUESTION 5

Please comment on the proposed transition period of 18 months in relation to the different options assessed by SEAC. For each of the options below, respond to the following: Is this transition period feasible for you with regard to limit value for workers (LV) and emission limit values (ELVs)? if not, please indicate which limit value is most problematic (i.e. LV and/or ELV) and specify a more realistic duration of the transition period. Please provide a clear justification and evidence to underpin your answers separately for a LV for workers' exposure of ***1 µg/m³*** *that is the same for all UCs*

A harmonised worker LV of 1 µg Cr(VI)/m^3 may be clearer and more enforceable than several UC-specific values, but 18 months is not generally feasible. The worker LV is most difficult for open tanks, loading, jigging, masking, bath preparation, large or complex parts, maintenance, cleaning, stripping and other non-routine work. Job platers handling variable, low-volume or repair parts cannot always automate or enclose these operations.

Many sites already apply substantial controls under authorisation, OSH law, permits and customer requirements. Further reduction may require ventilation or tank redesign, enclosure, handling changes, monitoring, permit variation and customer validation. Before the transition begins, EU rules must define RPE treatment, assigned protection factors, task-based exposure, 8-hour TWA calculations, sampling duration and values below the limit of quantification.

CETS requests at least 60 months. A shorter period may be possible only where existing controls and harmonised monitoring already demonstrate compliance without structural changes. Sixty months is the minimum where engineering, permitting or qualification is required. The framework must recognise value-chain constraints and include a review mechanism where technically and economically feasible controls or alternatives do not exist. Without these conditions, even a potentially manageable value would create inconsistent enforcement and loss of critical surface-treatment capacity.

QUESTION 6

Please comment on the proposed transition period of 18 months in relation to the different options assessed by SEAC. For each of the options below, respond to the following: Is this transition period feasible for you with regard to limit value for workers (LV) and emission limit values (ELVs)? if not, please indicate which limit value is most problematic (i.e. LV and/or ELV) and specify a more realistic duration of the transition period. Please provide a clear justification and evidence to underpin your answers separately for a LV for workers' exposure of ***0.5 µg/m³*** *that is the same for all UCs*

An 18-month transition is not feasible for a harmonised worker LV of 0.5 µg Cr(VI)/m^3. Harmonisation may simplify communication, but it does not establish technical feasibility or monitorability. The LV is particularly problematic for open-tank and manual operations, variable or large parts, bath work, maintenance, cleaning, filter changes, stripping and repair. Automation and enclosure are not general solutions for job platers or skilled, low-volume work.

Moving from 1 to 0.5 µg/m^3 may require a different engineering approach, including ventilation redesign, improved extraction, enclosure, mist control, layout or handling changes and repeated monitoring. Remaining improvement potential is site-specific because many operators already apply advanced controls. SEAC also notes limited availability of methods and services for values below 1 µg/m^3. Binding rules are needed for sampling, RPE, assigned protection factors, task duration, 8-hour TWA assessment and values below the limit of quantification. Interaction with the possible restriction of PFAS-containing mist suppressants must also be considered.

If 0.5 µg/m^3 is retained as a policy objective, implementation should be staged: first establish and evaluate a harmonised 1 µg/m^3 framework, collect representative EU data, then review use-specific feasibility. At least 96 months are required, with longer periods for structural works, permits or customer qualification. No deadline should apply to a use until a credible compliance or substitution pathway is demonstrated, supported by an authorisation-equivalent safeguard.

QUESTION 7

Please comment on the proposed transition period of 18 months in relation to the different options assessed by SEAC. For each of the options below, respond to the following: Is this transition period feasible for you with regard to limit value for workers (LV) and emission limit values (ELVs)? if not, please indicate which limit value is most problematic (i.e. LV and/or ELV) and specify a more realistic duration of the transition period. Please provide a clear justification and evidence to underpin your answers separately for a LV for workers' exposure of ***0.1 µg/m³*** *that is the same for all UCs*

An 18-month transition is not feasible for a harmonised worker LV of 0.1 µg Cr(VI)/m^3. Under current industrial and analytical conditions, general technical feasibility, monitorability and enforceability are not demonstrated. This value is particularly problematic for open or semi-open tanks, loading, jigging, bath adjustment, large parts, maintenance, cleaning, filter changes, stripping, repairs and other short or non-routine tasks. Manual intervention is intrinsic to many job-plating activities and cannot always be replaced by automation or enclosure.

At 0.1 µg/m^3, measurement capability is itself a central obstacle. SEAC recognises limited methods and service availability below 1 µg/m^3. Sampling must remain representative of real tasks and shifts, not be artificially extended merely to obtain a quantifiable result. The restriction must also define whether and how RPE is considered, including assigned protection factors, fit testing, maintenance, wearing time and enforcement.

CETS does not support introducing 0.1 µg/m^3 as a general requirement. It should be considered only after implementation and evaluation of a realistic 1 µg/m^3 framework, collection of harmonised data, proof of analytical capacity and a use-specific technical and value-chain assessment. Until a credible compliance or substitution route exists, no fixed transition period can be defined. Otherwise the measure would cause closure, relocation and import dependency rather than controlled risk reduction. A formal safeguard equivalent to an authorisation review period is essential.

QUESTION 8

To comply with the restriction, some companies may need to improve their risk management measures (RMMs). The proportion of companies expected to do so may be different depending on the limit value. What transition periods would be required in each restriction option so that the suppliers of improved RMM equipment and services are able to handle the increase in demand? Please provide a clear justification and evidence to underpin your answers.

The transition must reflect both individual implementation time and the aggregate capacity of European suppliers of ventilation, enclosures, scrubbers, wastewater treatment, automation, monitoring, laboratories, occupational hygiene services and permit authorities. Surface-treatment plants differ in chemistry, temperature, current density, tank geometry, layout, handling, part size, production volume and manual intervention; one standard RMM package cannot serve all sites.

Exposure reduction is iterative: identify sources, design and install controls, measure results, correct residual problems and repeat monitoring. The first intervention may not deliver the intended reduction. Extraction can create turbulence, enclosure can obstruct handling or maintenance, and stronger air abatement can increase wastewater, sludge, filter waste, energy use and maintenance exposure. Supplier capacity therefore cannot be assessed as procurement time alone.

If many sites act simultaneously, bottlenecks will affect engineering, equipment, laboratories, consultants, waste capacity and authorities. These constraints increase as the limits become stricter. Customer or OEM validation may also be required where a change can affect coating quality or performance.

CETS proposes at least 36 months for RO1, with up to 60 months for plant redesign, permitting or qualification; at least 60 months for RO2 and for a harmonised 1 µg/m^3 worker LV; at least 96 months and a staged review for 0.5 µg/m^3; and more than 120 months for complex RO3 installations, conditional on use-specific feasibility. No credible period can presently be set for 0.1 µg/m^3 because technical and analytical feasibility remain unproven.

Each transition should include process mapping, engineering assessment, supplier-capacity review, procurement, commissioning, harmonised monitoring, corrective action, permits and customer validation. A formal safeguard is needed where no feasible RMM or

substitution route exists. Eighteen months would cause bottlenecks, rushed and ineffective investments, closures and downstream disruption rather than sustainable risk reduction.

QUESTION 9

Maximum release factors (MRFs) for emissions to air as an alternative way to demonstrate compliance, instead of ELVs:

In this option analysed by the Dossier Submitter (AO5), installations that cannot comply with the ELV for air emissions may alternatively demonstrate compliance with a MRF of 0.1 % (instead of 2.5 kg/Cr(VI)/year in RO1) or 0.01 % (instead of 0.25 kg/Cr(VI)/year in RO2).

If you expect to close or relocate because you will not be able to comply with the ELVs, would it be possible for you to instead comply with a maximum release factor (MRF) of

- *0.01% or*
- *0.1%?*

Would the possibility of complying with an MRF change your plans for closure or relocation? Please describe the impact of AO5 in terms of compliance costs.

CETS supports a maximum release factor as a complementary route for air emissions. An absolute kg/year ELV does not distinguish a poorly controlled low-throughput site from an efficient high-throughput installation. A site with advanced extraction and abatement may exceed an annual mass threshold because of production volume, while a smaller site may comply with lower control efficiency. The Background Document recognises this structural issue and reports that about 80 percent of CfE respondents had release factors below 0.1 percent and about 40 percent below 0.01 percent.

AO5 could therefore change closure or relocation decisions, particularly for high-throughput sites already operating effective controls. A factor of 0.1 percent is the more realistic complementary route for many installations. A factor of 0.01 percent may be achievable by some sites but cannot be assumed across the sector. It would still require major investment or discontinuation for a substantial share of operators.

The MRF must not be an uncontrolled exemption. A harmonised EU method should define Cr(VI) input, representative emission measurements, operating conditions, sampling frequency, annual calculation, documentation and corrective action. Compliance should be combined with maintained, BAT-consistent RMMs and auditable records.

AO5 would reduce disproportionate investment undertaken solely to meet an absolute mass cap and could avoid closure of efficient sites. Costs would remain for mass-balance systems, monitoring, laboratory analysis, verification and maintenance, but these are proportionate if they replace technically unnecessary additional abatement or non-use. The assessment must include avoided downstream disruption to OEMs, repair chains and strategic sectors, not only direct compliance costs. CETS therefore requests retention of MRFs, with 0.1 percent as a generally credible route and 0.01 percent applied only where technically demonstrated.

QUESTION 10

RAC proposal: RAC proposes emission limit values of 0.15 kg Cr(VI)/year for water emissions and 0.25 kg Cr(VI)/year for air emissions; and a limit value for workers' exposure of 0.1 µg/m^3 that shall not be exceeded on any day of the year, and that must be implemented following the hierarchy of control measures (workers can be protected by respiratory protective equipment as a temporary measure, only if other options (i.e. engineering and administrative RMMs) have been fully exhausted and are still not sufficient).

What would be the impact of this restriction option on your company/sector? Please provide information on the type of technical changes that would be required to comply with such an option for your company/sector and the associated costs.

The RAC proposal would severely disrupt the European surface-treatment sector. Combining a worker LV of 0.1 µg Cr(VI)/m^3 that must not be exceeded on any day, annual ELVs of 0.25 kg to air and 0.15 kg to water, and only temporary recognition of RPE would operate as a forced-discontinuation scenario for many activities.

Daily exposure varies with loading, jigging, bath adjustment, temperature, current density, maintenance, filter changes and large or complex parts. A daily non-exceedance requirement cannot be demonstrated by periodic monitoring without a harmonised strategy. At 0.1 µg/m^3, values are close to the capability of common methods; longer sampling may be incompatible with short tasks and real shifts. RPE cannot be treated as merely temporary where necessary non-routine work cannot be fully controlled by engineering measures. EU rules would need to cover assigned protection factors, fit testing, maintenance and actual wearing time.

Potential changes include redesign of local exhaust ventilation, tank extraction and covers, partial enclosure, mist suppression, automation, handling changes, scrubber upgrades, additional air-abatement stages, wastewater-treatment upgrades, monitoring points, new procedures, building works and permit variations. These solutions are site-specific and may transfer burdens to liquid waste, sludge, filters, energy use and maintenance. Automation is not generally feasible for job plating, repairs and variable parts.

Absolute air and water limits are also problematic for efficient high-throughput sites. Costs may include engineering, equipment, monitoring, downtime, permits, plant reconstruction and customer requalification. Where no technical route exists, the relevant cost is closure, relocation or loss of a qualified process, with downstream impacts on OEMs, maintenance, spare parts, machinery, transport, aerospace, defence and energy.

CETS cannot provide a representative single cost figure because layouts and existing controls vary substantially. Before such an option could be considered, SEAC would need use-specific feasibility studies, a staged evaluation beginning at 1 µg/m^3, harmonised monitoring and RPE rules, proof of analytical and supplier capacity, realistic permitting time, a full value-chain assessment and a formal safeguard. In its present form, the RAC proposal is neither practical nor proportionate.

QUESTION 11

In the consultation on the Annex XV dossier, for certain uses of barium chromate (e.g. pyrotechnic delay compositions), it was claimed that safety concerns would limit the possibilities to implement effective ventilation to comply with the limit values for workers in all the restriction options. Please provide more information on whether there are alternative risk management measures that could be used to comply. What are the cost implications of these measures?

QUESTION 12

Comments on each section of the SEAC draft opinion: In case you wish to comment on Section 1.2. 'SEAC opinion', please provide the comments here.

Section 1.2 should be revised because it presents conclusions with greater certainty than the evidence supports. The recommended option must be technically implementable, monitorable, enforceable and proportionate; these conditions have not yet been demonstrated.

The acknowledged omission of impacts up and down the supply chain is decisive. For UC2, UC3 and UC5, job platers process customer-owned parts under OEM or supplier specifications. Their margin is not a proxy for the value of component availability, repair capacity, qualified supply or downstream production. The present analysis therefore covers only part of direct first-order costs, not the full value-chain impact.

Section 1.2 should also distinguish a modelled cost-benefit result from real implementability and enforceability. A transition period is meaningful only where a credible compliance or substitution pathway exists. SEAC cannot presently conclude on the availability or technical and economic feasibility of alternatives at use, UC or general level. Extending a deadline cannot correct that gap. RO2 could be a basis for further discussion only with realistic transition periods, harmonised rules for monitoring and RPE, sufficient supplier and laboratory capacity, permitting time and downstream assessment. RO3 and the RAC proposal should not be presented as potentially proportionate merely because more time could be granted.

The opinion should state clearly that proportionality conclusions are conditional; value-chain impacts were not assessed; the baseline and CfE evidence are not fully representative; RPE, assigned protection factors, sampling, 8-hour TWA, values below the limit of quantification and release calculations require binding EU rules; and modelled statistical benefits do not replace a complete cost and feasibility assessment.

CETS requests that Section 1.2 avoid firm endorsement of any option at this stage. Even RO1 and RO2 require substantial revision, and any final framework must include an authorisation-equivalent safeguard for uses without feasible controls or alternatives.

QUESTION 13

In case you wish to comment on Section 2.2.2. 'SEAC opinion summary', please provide the comments here.

Section 2.2.2 should summarise not only the preferred direction but also the assessment's structural limitations. It should state prominently that value-chain impacts were not accounted for and that some chromate users may not have been captured by the CfEs. For job platers, direct producer surplus does not represent downstream component value, repair capacity, requalification costs, qualified supply, strategic autonomy or security of supply.

Health benefits should be reported as modelled statistical cases, alongside monetary values. The Background Document estimates 64 avoided statistical cancer cases for RO1, 195 for RO2 and 234 for RO3 over 20 years, equivalent to 3.2, 9.8 and 11.7 cases per year across the EU and EEA. These are counterfactual model outputs, not observable or individually attributable cases.

Worker and environmental benefits should be separated. From RO2 to RO3, general-population air and water benefits rise only from about €366 million to €380 million over 20 years, while estimated air and water abatement costs rise from €447 million to €1.37 billion. The summary should not imply that stricter ELVs deliver proportionate incremental benefits. Absolute ELVs may also cause non-use at high-throughput sites, a cost not captured by an abatement-only model.

The modular presentation of LVs and ELVs must not suggest that elements can be recombined without a new feasibility and proportionality assessment. Worker limits, air and water limits, RPE, analytical methods, permits and transition periods interact. Binding rules are still needed for 8-hour TWA, task-based exposure, values below the limit of quantification, sampling duration, annual releases, batch operations and multiple emission points.

CETS requests a more cautious summary: costs and benefits are uncertain; environmental ELVs need a separate proportionality test; RO3 and RAC cannot become proportionate merely through a longer transition; and no option should be endorsed until value-chain costs, non-use and enforceability are properly assessed.

QUESTION 14

In case you wish to comment on Section 3.2. 'Justification that action is required on a Union wide basis', please provide the comments here.

CETS agrees that, if further regulatory action is required, it should be Union-wide. Divergent national rules would create unequal protection, distort competition and fragment the internal market. However, Section 3.2 must distinguish the case for EU-level action from the claim that this particular restriction design is the most appropriate EU measure. The first is justified; the second has not been demonstrated.

True harmonisation requires common rules for sampling, task-based exposure, RPE, assigned protection factors, values below the limit of quantification, annual releases, maximum release factors, multiple emission points and enforcement. Without them, Member States may apply the same legal text differently. Existing instruments must also be assessed: REACH authorisation, OSH and CMRD, binding occupational limits, IED and IPPC permits, BAT and BREF requirements and national environmental controls. SEAC acknowledges that authorisation and combined options, such as worker protection under OSH and emissions under a targeted measure, were not adequately compared.

Replacing authorisation with fixed limits and dates removes case-specific review periods and safeguards where alternatives are not feasible. Administrative workload cannot substitute for an assessment of effectiveness, proportionality and socio-economic impact. The value-chain dimension is also essential: job platers operate under customer specifications, and loss of EU capacity would affect manufacturing, repairs, spare parts and strategic sectors. Imported treated articles are outside the restriction, creating relocation, resilience and level-playing-field concerns.

Section 3.2 should therefore support coherent EU action in principle while stating that the proposed restriction is not yet shown to be the best instrument. A full comparison of regulatory options, common implementation rules, value-chain analysis and a formal safeguard are required before that conclusion can be drawn.

QUESTION 15

In case you wish to comment on Section 3.3.1. 'Availability and technical and economic feasibility of alternatives', please provide the comments here.

Section 3.3.1 should give decisive weight to SEAC's own finding that available information does not support conclusions on the availability or technical and economic feasibility of alternatives at use, UC or general level. Substitution must not be treated as a credible response to RO3, a ban or a 0.1 µg/m^3 worker LV while this evidence is missing. A transition period cannot create a technically qualified, customer-approved and economically viable alternative.

Feasibility is use-specific. It depends on substrate, geometry, thickness, hardness, wear and corrosion resistance, adhesion, friction, finish, dimensional tolerance, thermal and chemical resistance, repairability, hydrogen embrittlement, industrial scale and customer or OEM qualification. A technology working for one product or niche cannot be extrapolated to a whole UC. Positive examples and evidence of non-feasibility should be tested against the same standard.

Cr(III) plating illustrates the issue. SEAC identifies potential limitations in adhesion, hardness, corrosion protection, abrasion resistance and throwing power, as well as line modifications or new facilities. Nickel underlayers and boric acid may be required, creating performance, hazard and regulatory-durability questions. Boric-acid-free systems are not shown to be broadly available. Economic feasibility must include investment, operating cost, downtime, training and qualification, not merely the presence of a laboratory technology.

Job platers cannot substitute unilaterally where customers control specifications. An alternative available for part of a portfolio does not remove the need to maintain qualified Cr(VI) capability for remaining uses. The assessment must therefore confirm required performance, customer acceptance, industrial availability, material market coverage, absence of regrettable substitution, affordability for service providers and continuity of downstream supply.

Section 3.3.1 should be framed as a limitation of the Draft Opinion. Annexes may inventory potential technologies, but they do not demonstrate substitution capacity or justify fixed deadlines. Any final measure requires a use-specific review and an authorisation-equivalent safeguard where no feasible alternative exists.

QUESTION 16

In case you wish to comment on Section 3.4.1. 'Regulatory risk management options other than restriction', please provide the comments here.

Section 3.4.1 should be revised because the Draft Opinion does not demonstrate that an all-encompassing REACH restriction is the most appropriate risk-management option. Cr(VI) uses are already regulated through authorisation, OSH and CMRD, binding occupational limits, IED and IPPC permitting, BAT and BREF requirements, waste law, national permits and customer controls. A restriction should complement these systems and improve certainty, not create overlapping or contradictory obligations.

SEAC acknowledges that the Dossier Submitter did not adequately assess authorisation or combined approaches. It therefore cannot compare restriction with a model in which worker exposure is managed under OSH and environmental releases under IED, BAT, permits or a targeted REACH measure. This comparison is essential. Authorisation is resource-intensive, but it provides case-specific conditions, substitution analysis, review periods and continued use where alternatives are not feasible and risks are controlled. Fixed limits and dates do not provide the same safeguard.

Parallel REACH and OSH worker limits could create uncertainty over inspection, sampling, RPE, assigned protection factors, task exposure and 8-hour TWA calculations. REACH ELVs must likewise align with permit metrics, sampling points, averaging periods and authority approvals under IED and IPPC. Transition periods must include permit variation time. Regulatory interactions also matter: stricter Cr(VI) limits may rely on mist suppressants while PFAS action may affect the availability of some such controls.

The comparison must include value-chain effects. Job platers enable downstream manufacturing, repair and strategic supply, and their producer surplus does not capture the impact of lost capacity. CETS requests a full assessment of restriction, authorisation, OSH and CMRD, IED and BREF and combined options, including legal interfaces, value-chain costs and a safeguard mechanism. Until then, Section 3.4.1 should conclude that the regulatory-option assessment is incomplete, not that the proposed restriction is the most appropriate measure.

QUESTION 17

In case you wish to comment on Section 3.4.2.2. 'Definition of the baseline', please provide the comments here.

Section 3.4.2.2 should be revised because the baseline is too uncertain to support firm conclusions on costs, benefits or proportionality. Approximately 2,000 sites are assumed, but the numbers of companies, lines and exposed workers and their distribution across UCs are not known. Article 66 notifications, applications, registrations and CfEs were collected for different purposes and do not provide a statistically complete map. Allocating the whole population according to CfE response proportions assumes representativeness that is not demonstrated.

The baseline also fails to distinguish job platers, specialised platers, captive OEM operations, suppliers, repair providers and maintenance services. These roles have different substitution constraints and value-chain importance. A small job plater may be a bottleneck for a high-value qualified component, so site size or exposed-worker count cannot represent economic significance. The baseline must map downstream OEMs, repair chains, spare parts and strategic sectors in order to estimate non-use, relocation, requalification and security-of-supply effects.

Market contraction, plant closures, relocation pressure, energy and raw-material costs and restructuring should be included as sensitivity scenarios. Company responses cannot be predicted from broad averages alone because investment, substitution, closure and relocation depend on site layout, customer approval, permits, equipment and alternative availability.

The theoretical baseline also assumes that authorisation no longer applies even though underlying data were collected under authorisation, and the socio-economic impact of removing that regime was not assessed. Central results should therefore be labelled illustrative. A corrected baseline should distinguish industrial roles, map value chains, test contraction scenarios and state uncertainty in site and worker counts. Until then it cannot support a conclusion that RO2, RO3, the RAC proposal or a stricter combination is proportionate.

QUESTION 18

In case you wish to comment on Section 3.4.2.2.1. 'Costs', please provide the comments here.

Section 3.4.2.2.1 still underestimates socio-economic costs because it centres on direct Cr(VI)-user costs and excludes downstream effects. This is decisive for UC2 and UC3 and equally relevant to UC5, including plastic etching. In each case, specialised providers may perform an indispensable enabling step on customer-controlled parts or substrates under fixed specifications. Plastic etching is integral to the adhesion and quality of subsequent metallisation; interruption of that capability can therefore disrupt the same downstream production chains as plating operations. Producer surplus at the Cr(VI)-using site does not represent the value of production continuity, repair and spare-parts capacity, qualified supply, customer requalification, industrial know-how, technological sovereignty or security of supply. SEAC's acknowledgement that supply-chain impacts were not accounted for means the cost assessment is structurally incomplete.

The baseline of about 2,000 sites and their distribution across UCs are uncertain, while CfE participation was low and concepts such as compliance, economic viability, closure and RPE were not fully operational. Central estimates should therefore be illustrative. Industry evidence should be treated symmetrically: severe-impact responses should not be discounted as strategic while assumptions lowering costs receive less scrutiny.

Companies that have already substituted are not representative of those remaining. Early substituters are more likely to serve uses where alternatives were technically possible, customer-approved and affordable; remaining uses may be the most demanding. Similarly, the fact that RMMs can cost less than substitution does not establish that continued operation is financeable. Repeated monitoring, ventilation, enclosure, treatment upgrades, downtime, permits and qualification may still make a service uneconomic.

The role of RPE must be settled. If it cannot support compliance, rates and costs need recalculation; if it can, EU rules must define correction, assigned protection factors and verification. UC3 and UC5 should also be separated into technically meaningful sub-uses rather than averaged. UC3 should distinguish hard chrome, decorative-functional, repair, hydraulics and qualified aerospace or defence work. Within UC5, plastic etching should be

assessed distinctly from other surface-treatment operations and/or evaluated in one of the UC2 sub-groups.

CETS requests value-chain costing, contraction and full-closure scenarios, qualification and supply-disruption costs, separate treatment of past and future substituters and symmetrical uncertainty tests for costs and benefits. Without these changes, Section 3.4.2.2.1 cannot support a robust proportionality conclusion.

QUESTION 19

In case you wish to comment on Section 3.4.2.2.2. 'Benefits', please provide the comments here.

CETS supports effective reduction of Cr(VI) exposure but considers the benefits assessment insufficiently robust for strong proportionality conclusions. Benefits are modelled statistical cancer cases avoided, not observable or individually attributable cases. The Background Document estimates 64 cases for RO1, 195 for RO2 and 234 for RO3 over 20 years, equal to 3.2, 9.8 and 11.7 cases per year across the EU and EEA. These figures should accompany all monetised values.

The results depend on baseline exposure, dose-response, exposed population, release reduction, latency and valuation. SEAC notes that measured baseline exposure may be lower than inferred, which would reduce benefits. The appendices also identify scientific uncertainty on low-dose linearity and potential overestimation. Latency is not adequately incorporated in the 20-year period. General-population benefits rely on assumptions about emissions, dispersion and nearby populations rather than site-specific measurements or biomonitoring.

Benefits from improved controls must be separated from apparent benefits caused by closure, redundancy or relocation. Job loss has health and social costs. Relocation may transfer exposure and emissions to countries with weaker standards, so an EU reduction is not necessarily a net global benefit.

Benefits should receive the same stress testing applied to costs: lower baseline exposure, alternative dose-response functions, latency, different exposed populations and relocation leakage. The opinion should clarify that the results are counterfactual risk estimates that cannot be validated against observed cancer trends. It should also reconcile monetary figures across documents and avoid language suggesting certain, identifiable health outcomes.

Section 3.4.2.2.2 should therefore report statistical cases and assumptions transparently, distinguish risk reduction under continued operation from non-use, and assess risk transfer outside the EU. Until this symmetrical uncertainty analysis is performed, the modelled benefits cannot by themselves justify options with severe industrial and supply-chain impacts.

QUESTION 20

In case you wish to comment on Section 3.4.2.2.3. 'Other relevant impacts', please provide the comments here.

Section 3.4.2.2.3 recognises other impacts but treats them too generically and gives them insufficient weight in proportionality. The relevant structure is not simply SMEs versus large companies. Many operators are SME or micro-enterprise job platers serving customer-controlled value chains. They cannot set specifications or approve alternatives, have limited finance for ventilation, enclosure, treatment and monitoring, and may be unable to pass costs to customers exposed to non-EU competition.

Loss of one qualified plating capability can affect several downstream sectors simultaneously. The assessment should map component availability, repair and maintenance, spare parts, requalification costs and qualified supplier capacity, especially for transport, aerospace, defence, energy, machinery, hydraulics and safety-critical applications. Imports are not covered by the restriction; sourcing outside the EU is therefore not a neutral market adjustment but a risk to resilience, technological sovereignty and security of supply.

Regulatory interactions also require assessment. Some mist suppressants used to control chromium aerosol may be affected by PFAS restrictions. Alternatives may require Cr(III), nickel, boric acid, extra process steps, greater energy use or wastewater treatment. CETS does not argue for retaining hazardous substitutes, but the final framework must provide a technically feasible and legally durable compliance path and account for regrettable-substitution risks.

Relocation impacts extend beyond transport emissions. They include different energy mixes, duplicated qualification, scrapped products, loss of local repair capacity and shipment of components or assemblies abroad. Lack of quantification does not mean lack of material impact; it is a reason for caution.

CETS requests systematic value-chain mapping by UC and sector, a job-plater-specific SME analysis, assessment of import dependency and strategic capacity, cumulative regulatory and substitution impacts, and treatment of unquantified climate and relocation effects as

major uncertainties. These impacts must be integrated into proportionality before any option is selected.

QUESTION 21

In case you wish to comment on Section 3.4.2.2.4 'Proportionality', please provide the comments here.

Section 3.4.2.2.4 does not support a robust proportionality conclusion. SEAC acknowledges that cost and benefit ranges are not robust and that non-use, CfE bias and RPE assumptions materially affect results. For RO2, reported costs are about €1.59 billion and benefits about €1.08 billion over 20 years. For RO3, costs are about €4.72 billion and benefits about €1.30 billion. These balances already warrant caution before adding unquantified value-chain, qualification, relocation and strategic-autonomy costs.

A longer transition cannot make an option proportionate where no feasible compliance or substitution route exists. SEAC cannot conclude on the availability or technical and economic feasibility of alternatives at use or UC level. Time may support engineering and qualification where a pathway exists, but it cannot create one. Without a review safeguard, the result may be closure, relocation or import dependency.

Evidence should be treated symmetrically. Industry reports of closure or non-use should not be discounted while the same datasets support optimistic compliance assumptions. The producer surplus of job platers is also the wrong unit for distributional analysis: the relevant value includes downstream manufacturing, maintenance, repair, spare parts and qualified component supply.

Benefits are counterfactual statistical cases and depend on baseline exposure, dose-response, latency and population assumptions. They should be stress-tested as rigorously as costs and should distinguish improved operation from exposure reductions caused by closure or relocation.

CETS requests that SEAC describe proportionality as highly uncertain, quantify value-chain costs, assess job platers at value-chain level, reject the assumption that transition time substitutes for feasibility, and avoid expressions such as likely proportionate where the factual basis is incomplete. On current evidence, no robust finding of proportionality can be made for RO2, RO3, the RAC proposal or stricter combinations.

QUESTION 22

In case you wish to comment on Section 3.4.2.3. 'Practicality, including enforceability', please provide the comments here.

Section 3.4.2.3 is too optimistic in describing RO1 and RO2 as generally practical. Many companies already apply substantial RMMs under authorisation, OSH law, permits and customer requirements. Remaining improvement potential is site- and process-specific. Automation and enclosure may be suitable for repetitive standardised lines but not for low-volume, repair, large-part, variable or skilled manual operations.

Air and water releases require different analyses. Water control depends on drag-out, rinsing and treatment chemistry; air control depends on temperature, current density, mist formation, capture efficiency, tank geometry and operating tasks. Aggregated data can hide impracticality for specific technologies. A measure is practical only where companies have a technically and economically realistic compliance route, not merely because upgrading RMMs is theoretically conceivable.

Harmonisation is a prerequisite. Binding EU rules must cover sampling, 8-hour TWA, intermittent tasks, RPE, assigned protection factors, values below the limit of quantification, annual emissions, multiple points and enforcement. Monitoring should align with existing OSH and permit obligations and remain proportionate. SEAC cites campaign costs of roughly €5,000 to €15,000, potentially higher for low limits, which can become structural for SMEs with multiple tasks and points.

Eighteen months is unrealistic because engineering, supplier capacity, analytical services, permits and qualification require sequential time. IED and BAT implementation itself recognises multi-year permitting and investment cycles. Where consultation evidence is incomplete, the appropriate conclusion is that practicality is unproven, not that it can be assumed.

CETS requests staged transitions differentiated by stringency and complexity, with harmonised rules available before application and an authorisation-equivalent safeguard.

RO2 cannot be considered generally practical until these conditions are met. Practicality and enforceability are not demonstrated for RO3 or stricter options.

QUESTION 23

In case you wish to comment on Section 3.4.2.4. 'Monitorability', please provide the comments here.

The conclusion that RO1 and RO2 are monitorable is premature. The question is not whether analytical methods exist, but whether the restriction provides a harmonised, representative and enforceable system across Member States and industrial configurations. Existing experience under OSH, permits and authorisation does not automatically create one common REACH methodology.

Underlying datasets were collected for different purposes and often lack sampling method, duration, limit of quantification or site identification. Cr(VI) must be distinguished from total chromium. EN 689 does not resolve how RPE should be considered. If compliance is assessed without RPE, impact estimates must reflect that; if RPE is considered, the restriction must define assigned protection factors, fit, maintenance, task duration and actual wearing time.

Sampling must represent real 8-hour TWA exposure and intermittent or short tasks. It should not be extended beyond meaningful work merely to obtain a quantifiable result. This is crucial for variable and batch job-plating operations. Environmental rules are equally incomplete: annual releases depend on concentration, flow, batch or continuous patterns, campaign frequency and aggregation of emission points.

Before application, binding rules should define workplace sampling; intermittent-task assessment; RPE treatment; handling of values below the limit of quantification; analytical performance and speciation; annual air and water calculations; campaign frequency; batch operations; multiple points; reporting, retention, accreditation and dispute resolution.

Operator and authority responsibilities must also be clear. Forum observations that authority-led air sampling would be nearly unfeasible reinforce this need.

Repeated campaigns costing about €5,000 to €15,000 or more can be a significant recurring burden for SMEs. RO1 and RO2 should therefore be described as monitorable only conditionally, once harmonised rules and capacity exist. RO3 and stricter options are not monitorable in the short term. Any value requiring disproportionate or non-representative measurement should not be adopted.

QUESTION 24

In case you wish to comment on Section 3.4.3. 'Conclusion whether the suggested restriction is the most appropriate EU-wide measure', please provide the comments here.

Section 3.4.3 cannot conclude that the proposed restriction is the most appropriate EU-wide measure. CETS supports Union-wide, consistent protection, but SEAC acknowledges that authorisation and combined risk-management approaches were not adequately assessed and that identified cost uncertainties prevent selection of the most appropriate option. A modular menu of LVs and ELVs does not fill this comparative gap.

Replacing authorisation with restriction is a substantive change, not merely an administrative simplification. Authorisation provides use-specific conditions, substitution analysis, review periods and a route to continued use where no suitable alternative exists and risks are controlled. Fixed dates and values provide no equivalent safeguard. This matters because SEAC cannot conclude that alternatives are technically and economically feasible at use, UC or general level. A deadline without a feasible route is an industrial exit mechanism, not a substitution strategy.

The dossier recognises that authorisation reduced risk but created workload and delays. Administrative efficiency is relevant, yet it does not prove that restriction is more effective, practical, monitorable or proportionate. The theoretical baseline also assumes removal of authorisation without assessing the socio-economic consequences of that change.

No option can be identified as most appropriate while authorisation and combined OSH, CMRD, IED and targeted REACH approaches remain untested; alternatives are unproven; costs omit value-chain impacts; benefits are modelled and uncertain; implementation rules are unresolved; and fixed deadlines lack a review safeguard.

CETS requests a full comparative assessment or, at minimum, a narrower conclusion that the restriction options are possible designs within the mandate but have not been shown to be the most appropriate EU measure. Any final measure must include common implementation rules, a complete value-chain assessment and an authorisation-equivalent safeguard.

QUESTION 25

In case you wish to comment on Section 3.5.2. 'Uncertainties evaluated by SEAC', please provide the comments here.

Section 3.5.2 identifies many uncertainties but does not draw their necessary consequence. They are cumulative and structural: sensitive parameters are absent from the Monte Carlo model; the baseline differs from the situation in which data were collected; CfE evidence is affected by low participation, selection bias and uncertain future company responses; RPE treatment is unresolved; transition-period obligations are ambiguous; and value-chain impacts are missing.

Monte Carlo simulation can quantify variation within a model but cannot correct omitted variables, a mismatched baseline or unknown substitution pathways. The concept of an optimal transition period is likewise unsound where technical and economic feasibility is not known. More time can support an identified engineering route; it cannot make an unqualified, unavailable or unaffordable alternative feasible.

Future company responses cannot be modelled credibly without use-specific evidence on customer specifications, qualification, equipment, permits and alternatives. A particularly important assumption is that companies will upgrade RMMs and that ELVs will cause no substitution or closure. For some sites, especially high-throughput installations subject to absolute mass limits, this may materially understate non-use costs.

The most serious omission remains the statement that impacts up and down the supply chain were not accounted for. Job-plater margins do not represent downstream component value, repair capacity, requalification, security of supply or EU capability. Some users of chromates and barium chromate may also have been missed by the CfEs, further weakening representativeness.

Section 3.5.2 should therefore state that no optimal transition can be derived, ELV-driven non-use must be assessed, value-chain impacts are a major unresolved variable and current results cannot support a robust selection of RO2, RO3, RAC or stricter options. At most, the evidence supports the need for further assessment before a legally and economically sound restriction is adopted.

QUESTION 26

In case you wish to comment on ANNEX I. 'SEAC box on calculation of non-use costs', please provide the comments here.

Annex I identifies a genuine statistical issue in calculating profit loss per exposed worker, but its revised averaging does not establish reliable or complete non-use costs. High profit loss per worker may reflect industrial structure rather than an erroneous outlier. A small site with few exposed workers may be a specialised job plater, supplier, repair provider or bottleneck for high-value qualified components.

Moving from profit loss per worker to profit loss per company corrects one mathematical distortion but still ignores the operator's value-chain role. The surface-treatment company's margin may be modest while its service enables OEM production, maintenance, spare parts, qualified supply and strategic sectors. Closure can trigger requalification, delay, downtime, import dependency, loss of repair capacity and know-how. None of these effects is captured by a mean producer-surplus figure.

Statistical robustness checks should not automatically compress severe impacts. High observations should be investigated by business model, supply-chain position and component criticality. This is especially necessary because SEAC acknowledges that impacts up and down the supply chain were not accounted for. The revised method therefore shows sensitivity to assumptions, not robustness of the resulting central estimate.

Before using lower non-use costs in proportionality, SEAC should distinguish job platers, captive OEM operations, suppliers and specialised services; determine whether high observations reflect critical functions; assess downstream value and requalification; and incorporate supply-chain impacts. Annex I should state clearly that it corrects one calculation issue only and does not quantify the full socio-economic consequences of non-use. It cannot support a conclusion that non-use costs are low or adequately captured.

QUESTION 27

In case you wish to comment on ANNEX II. 'Summary of the information on technical and economic feasibility of alternatives to Cr(VI) provided in the BD', please provide the comments here.

Annex II is useful only as a high-level inventory of potential technologies. It does not demonstrate that alternatives are generally available, technically feasible, economically viable or capable of supporting substitution within a fixed period. SEAC correctly states that scarcity and lack of granularity prevent conclusions at use, UC or general level; this limitation should dominate the Annex.

Listing technologies can nevertheless imply readiness that is not proven. Positive niche examples and evidence of non-feasibility must be tested against the same requirements: performance, qualification, customer acceptance, industrial scale, market coverage and cost. A solution for one product, geometry or customer cannot be extrapolated to UC2 or the highly diverse UC3.

Cr(III) plating illustrates the limitations. Annex II itself identifies issues with adhesion, hardness, corrosion and abrasion protection and throwing power, and possible need for line changes or a new facility. Nickel underlayers may be functionally necessary in demanding applications and should not be treated as incidental. Boric acid may also be required, while second-generation boric-acid-free systems still need development. The dossier indicates that readiness for aerospace and defence may not occur before 2036 at the earliest; broad market availability is therefore not established. Sanitary, automotive, hard-chrome, repair, hydraulic and safety-critical uses require separate treatment.

Evidence from authorisation applications should be handled consistently. If it is relevant to identify alternatives, the same scrutinised material showing lack of substitutability must not be discounted. The Annex should state that feasibility is use-, customer- and performance-specific; narrow examples cannot be generalised; Cr(III), nickel and boric-acid implications require separate assessment; and customer approval, recertification, scale and market share must be demonstrated.Annex II should not support proportionality, transition-period assumptions or a finding that substitution is a realistic sector-wide response. Use-specific evidence and an authorisation-equivalent safeguard remain necessary wherever no feasible alternative is demonstrated.